The Journal
OF THE
Jamaica Agricultural Society.

The more people do the more they can do; he who does nothing renders himself incapable of doing anything; while we are executing one work we are preparing ourselves for undertaking another.

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BOARD OF MANAGEMENT.

The usual monthly Meeting of the Board of Management of the Jamaica Agricultural Society was held at the Office of the Society, 11 North Parade, Kingston, on Thursday, the 17th June, 1915, at 11.40 a.m. Present: His Excellency Sir Wm. H. Manning, K.C.M.G., C.B. (presiding); Sir Jno. Pringle, K.C.M.G., Hons. P. C. Cork, C.M.G., H. H. Cousins, D. Campbell, R. P. Simmonds, S. S. Stedman and J. R. Williams; Messrs. A. W. Douet, E. W. Muirhead, Adam Roxburgh, Archd. Spooner, and the Secretary, Jno. Barclay.

Apologies for absence were submitted from Messrs. R. Craig, H. Q. Levy, A. C. L. Martin, and the Rev. W. T. Graham, who were unable to attend owing to the heavy rains prevailing in their districts.

The Minutes of the previous Meeting having been printed and circulated, were taken as read and confirmed.

Matters arising out of the Minutes:—

(a) *Banana Commission.*—Mr. Muirhead moved the following resolution notice of which he had given at a previous Meeting of the Board:—

"Will the Government inform this Society if, at the time of sending the deputation to Canada *re* the war tax on bananas, the members of the deputation were instructed to endeavour to obtain only the reduction or removal of this tax or were they instructed to get a reduction on other productions upon which such tax, if levied, would be also a burden, or was it considered that bananas should be the only article that should be exempt?"

Mr. Muirhead said that he had also written to the Secretary asking what the value of importations into Canada were for Bananas, Citrus Fruits, and any other articles for which increased taxes for war purposes had been proposed to be placed. He had sent the Colonial Secretary also the following questions:—

"1. Has the War Tax in Canada been passed? and if so state upon which articles exported from Jamaica is it imposed, also state the rate on amount of tax.

"2. Give a complete list of the quantities of the following articles exported into Canada to December 31st, 1914, and the rates fixed by the Customs here upon some: coffee, cocoa, coconuts, bananas, ginger, pimento, sugar, grapefruit and honey.

"3. Inform me how the value attached to each article is arrived at by the Customs here in each case, if it is for the contents or materials only, or is the value of the package where packer is quoted, taken into consideration and valued also?

"4. Do these valuations vary, or are they the same from year to year, and if any variation in prices, how are they varied by the Customs here?"

The Acting Colonial Secretary wrote him on the 3rd of May last as follows:—

"I am directed by the Governor to acknowledge the receipt of your letter of the

23rd ultimo, asking for certain information which you require for use at the Agricultural Society's meeting, and in reply to transmit for your information, a copy of a memorandum and a statement which have been furnished by the Collector General to whom your letter was referred.

"I am to add that this Government has no information regarding the details of the War Taxes in Canada."

(From the Collector General to the Colonial Secretary):—

"Hon. Colonial Secretary.

"As to I., I can give no information.

"As to II. Memo herewith.

"As to III. Values of staple articles are fixed on information obtained from the chief shippers, quarter by quarter, in the case of other minor articles, the endorsement on the bill of lading rendered under section 118 of Law 18 of 1877 is accepted. In this list only the value of grapefruit has been obtained by the latter means. Values are F. O. B. All expenses up to time the goods are placed on board ship being included.

"As to IV. They vary, see above."

The following is the table prepared by the Collector General:

EXPORTED TO CANADA.

Coffee	1,677 cwt.	£3,495
Cocoa	4,083 cwt.	8,643
Cocoanuts	1,719,600 Nos	7,265
Bananas	Nil	Nil
Oranges	2,399,700 Nos.	2,885
Ginger	1,656 cwt.	2,630
Pimento	2,436 cwt.	1,248
Sugar	255,833 cwts.	163,094
Grape Fruit	12,380 pkgs.	4,389
Honey	2,548 gals.	270

Mr. Muirhead said that the public had had no information on these matters and that it might even appear to the public that the deputation had left Jamaica for Canada for an object that did not exist.

Mr. Stedman said that on a point of order, he did not think the Board competent to discuss a decision of the Legislative Council. The Council had decided on a certain point and he did not think that it should be criticised at this meeting.

The President agreed with Mr. Stedman; but stated that Mr. Muirhead was asking for information which he had not been able to obtain from what happened in the Council. He thought that Mr. Muirhead should receive the information. As they would all remember at the outbreak of the war, Canada looked around to find some means of finding revenue to meet her expenditure. One of these means was a tax on bananas arriving in the Dominion. The matter was brought before him by certain gentlemen interested in banana planting. First of all it was decided to send a cablegram to the Governor General of Canada pointing out that the imposition of the tax would very seriously affect the Jamaica banana industry. This question was also raised in the Legislative Council; and with a view of endeavouring to get Canada not to impose a war tax on bananas, it was decided to send a deputation to Canada. When this decision was reached, there was no idea of urging on Canada the reduction of the duty on certain articles exported from Jamaica to Canada, for it would not have been possible for Canada to reduce the import duties bearing in mind that she had to find all the money she could to meet her war expenditure. It was merely on account of Canada endeavouring to raise extra revenue that she decided at the outset to impose an extra tax on bananas. It was never suggested that the deputation should speak about taxes on other products from this colony. If such

a question had been raised he would have pointed out that such a proposal was inopportune, especially as Canada was raising revenue to meet her war expenditure. With regard to the returns which had been furnished to Mr. Muirhead, as they were aware, no bananas were shipped direct from Jamaica to Canada. The fruit was sent to New York and it went from there to Canada, so that was why no statistics had been given as to the shipment of banans from Jamaica to Canada. As far as he was aware—and he was pretty certain of it—bananas were the only product of Jamaica on which it was proposed to impose a tax. No change had been made or suggested in respect to any other article exported from this island. It would have been wrong for them to ask Canada to take off the ordinary duty on products from this Island other than the proposed puty on bananas.

Mr. Stedman said the members of the deputation had been furnished with copies of the debates and schedules in the Canadian Parliament, and what His Excellency had said, was substantially correct.

Mr. Muirhead said he was satisfied with the explanation, and if he had got the information which he now got when he wrote the Colonial Secretary, there would have been no necessity for him to have raised the question that day. He thought that it would however, also satisfy the minds of a good many of the public.

(*b*) *Pod Rot & Canker of Cocoa.*—The Secretary submitted letter from Mr. Craig asking if the Board would be good enough to defer the discussion on Pod Rot & Canker of Cocoa until the next meeting, when he hoped to be present, as he would very much like to take part in the discussion. This was agreed to.

(*c*) *Banana Meal.*—The Secretary submitted Report of the Committee appointed to go into the matter of the utilization of bananas for making banana meal and report on same, as follows:—

The result of the examination at the Imperial Institute, of the sample of banana meal sent for report, is not very encouraging. Its nutritive value, as compared with wheat, flour and maize meal is very low:

	Nutrient Rates.	Food Units.
Banana Meal ..	1 to 17.6	93
Wheat Flour ..	1 to 5.6	117
Maize Meal ..	1 to 9.	110

"Banana meal is like other dried fruit, probably a good addition to nitrogenous foods such as meat, wheat, oats, and pulse, and it is reputed to be very digestible, but it can only serve as a substitute for them to a limited extent. It is however, useful as diet for sick persons in certain cases. At present the most profitable way of disposing of bananas is that of selling them for export. The rejected and the small bunches are used for human or animal food, either as a fruit, or green as a vegetable.

"The question of the manufacture of banana meal and banana figs arises, in regard to surplus or unsaleable fruit, as a means of preventing waste, or obviating the reduction of prices below a point at which it might be profitable to resort to manufacture. Undoubtedly, however, consumption might be stimulated to the advantage of the producer, by presenting the banana in a new form preserved for storage.

"Ordinarily, in the past, the demand for fruit has been in excess of the supply. This condition, disturbed by the war, may be regained after its termination, in which case the supply for the manufacture of banana meal will be again restricted.

The prices of bananas as fruit for export range from £5 to £12 10s. per 100 bunches at different seasons, and for the best. It appears reasonable to appraise them at from 2/- to 4/- per cwt. delivered at a port or railway station.

"The annexed estimate, prepared by the Secretary, based on prices of 1/3 to

1/6 per cwt., presumably for surplus or rejected fruit, brings the cost of dried chips to 8/9 to 10/6 per cwt., and the cost of manufacture and barrelling 5/10 to 6/4, or a total for prepared meal of 14/7 to 16/10 per cwt., equal to 1.56d. to 1.8d. per lb.

In his annual report for 1913-14 (paragraph 12) the Collector General gives the quantity and value of wheat flour imported in 1913 and the average for the 4 preceding years: 1913, value per barrel of 196 lbs., 21/-, equal 1.28d. per lb., duty approximately .50d., equal 1.78d. per lb., 4 previous years, value per barrel of 196 lbs., 22/1½ equal 1.35d. per lb., duty approximately 50d., equal 1.85d. per lb.

These statistics show that in times of peace, the cost of wheat flour and banana meal would be approximately the same.

"In July last, the retail price of flour in Kingston was 2d. per quart. Since the war it has risen to 2¼d. per lb., an increase of nearly 40 per cent. While the war lasts, therefore, banana meal, if retailed at 1¾d. to 2d. per lb., might partially supplant wheat flour, since the latter is burdened with an import duty of approximately ½d. per lb., but it is very possible that if this should occur, the Government might find itself compelled to impose additional taxation to replace the loss on the flour duties. It is most probable, however, that the people will continue to consume bananas in their natural state, rather than in the form of meal and thus escape the cost of manufacture, which is very heavy, amounting to 60 to 66 per cent.

"The conclusion that the Committee have arrived at, is that banana meal can only be regarded as a fancy article of diet, not likely to command a large market, and that the cost of manufacture enhances the price to so great an extent, that it is only under most exceptional circumstances, that any hope can be entertained of bringing it into consumption, as a commercial product locally. (This conclusion does not refer to countries where fresh bananas are not so cheap as here, i.e., in the markets of Europe and North America where banana meal or flour may be appreciated as a desirable food for infants and invalids). But that in cases where the members of a family undertake the manufacture, the utilization of bananas to make meal in periods when bananas are very plentiful and cheap to prevent waste, and provide a store of food always ready at hand, for use in the household when other food is dear, is recommended as a useful economy.

"A foreign trade in dried banana chips is already in existence and may be susceptible of some expansion.

(Sgd.) "P. C. CORK."

The report was tabled.

(*d*) *Sugar.*—The Secretary said that at the previous Meeting of the Board a letter from the Secretary of the West India Committee had been read submitting a resolution passed by the Executive of that body in London, and asking the Board to support it. The following is the resolution:—

"Whereas in the year prior to the outbreak of the present war, the United Kingdom was dependent on foreign countries for no less than 95 per cent. of the sugar supply, and whereas in the opinion of this Committee an adequate supply of sugar could be produced within the British Empire to meet the requirements of the Mother Country, be it resolved: 'That it is desirable that British produced sugar should, for a period of not less than ten years, be accorded such preferential treatment as would suffice to encourage the development of both existing and potential sources of sugar supply within the Empire; and that His Majesty's Government be urged to take the necessary steps to bring this about.' "

It was decided to leave over the matter for discussion at the following Meeting, and then consider the previous communication submitted by the West India Committee, which had been referred to the Staple and Minor Products Committee, who had submitted a resolution to the Board in January, but which it had then been resolved to leave over for six months as at the time—January—it was considered that nothing should be done to hamper or incommode the Imperial Government in any way.

The President said he thought they should now deal with the matter, as in view of conditions now existing, it would be most opportune to send forward a resolution. There was now such a strong feeling against everything German that the opportunity should be taken to ensure that Germany would not be allowed to have any monopoly of trade in the future.

It was decided to approve of the resolution submitted by the West India Committee, and that the matter should be referred to the Staple and Minor Products Committee with a recommendation that they frame a resolution as from the Jamaica Agricultural Society urging that preferential treatment be given by the Mother Country to sugar coming from the British Colonies. If the matter could be considered before the next Meeting of the Board, the Secretary was instructed to send forward the resolution as it came from the Staple and Minor Products Committee without waiting for reference to the Board.

The following letters from the C.S.O. were submitted:

(*a*) *Re Leaflets on the War.*—

No. 6329-5440. 12th May, 1915.

"I am directed by the Governor to inform you that a supply of the leaflets noted in the margin, (copies of which are attached) prepared by the Victoria League, has been obtained through the Crown Agents for the Colonies for distribution in Jamaica.

2. A portion of these leaflets have been distributed by the Director of Education amongst the Elementary Schools of the Island, and His Excellency thinks it would be a good plan to distribute the remainder to the local Agricultural Societies. The leaflets are at present in the hands of the Superintendent of the Government Printing Office, who has been instructed to forward them to you for this purpose on your application to him.

3. These leaflets, I am to add, have already been paid for and no charge will be made for them by the Government."

(Sgd.) G. M. WORTLEY,
Actg. Asst. Colonial Secretary.

The Secretary said he would send a few of these to the Secretaries of Branch Societies so that extracts from them might be read at some of their Meetings.

(*b*) *Re Flogging in Trinidad.*—

No. 7315-7794. 8th June, 1915.

"With reference to the letter from this office, Nos. 5247-5597, dated the 23rd April, 1915, I am directed by the Governor to acquaint you, for the information of the Jamaica Agricultural Society, that on enquiry of the Governor of Trinidad, His Excellency reports that be considers that sentences of flogging have had a deterrent effect on the crime of praedial larceny in that colony and have proved to be the most effective way of stopping it.

"I am also to enclose for the information of the Jamaica Agricultural Society copies of a minute by the Crown Solicitor, Trinidad, in the matter of a return relating to cases of praedial larceny in that colony, for the period 31st August, 1914, to 31st March, 1915, and a statement of the cases in which the sentence has been carried out."

(Sgd.) ROBT. JOHNSTONE,
Actg. Colonial Secretary.

MINUTE BY THE CROWN SOLICITOR, TRINIDAD.

The Hon. Acting Colonial Secretary wrote: "I have consulted the Attorney General, by section 18 of Ordinance No 5, a Magistrate may order corporal punishment to be inflicted in the case of any male under the age of 16 who is convicted of stealing any sugar cane, cocoa tree, coffee tree, any fruit, vegetable or other praedial production or any cultivated root or plant used or capable of being used for the food of man or beast or for medicine, distilling or dyeing, or in the course of manufacture.

"By section 33 of Ordinance No. 8 of 1909, the Court may order corporal punishment in the case of a male convicted for the first time of the larceny of any produce or of being accessory to the larceny thereof or of being the receiver of stolen produce.

"On a second or subsequent conviction for larceny of produce, the Court shall order corporal punishment.

"The term produce includes cocoa, coffee, nutmegs, kola nuts, tonca beans, rubber, sugar, cane, coconuts, and provisions.

"Ordinances 107 and 241 regulate the methods of administering corporal punishment.

(Sgd.) "A. D. O'CONNOR,
"Crown Solicitor,
"26/2/15."

The returns show that the cases of praedial larceny brought into the Courts of Trinidad and Tobago from the 31st August, 1914, to the 31st March, 1915, were 295, of which there were 203 convictions, and 24 offenders flogged.

Mr. Campbell said that in his opinion flogging was no deterrent for Praedial Larceny; besides women were greater thieves than the men and they would not be flogged. He quoted cases of men having been flogged three times and still they came back before the Court for Praedial Larceny. Some other remedy like making the thief pay, would require to be found.

Mr. Cork said that from actual statistics here, flogging had been no deterrent to the praedial thief.

Mr. Roxburgh said that the small cultivators were those who suffered most from the praedial thief, and if they asked 99 out of 100 of these poor people who were robbed what should be done with the praedial thief, they would say flog him; but flogging would require to be carried out on a different system if it was to have the desired effect. It was no use flogging a man and then putting him in a hospital for the wounds to recover.

Mr. Simmonds said that when the Law for flogging was first introduced in Trinidad, the Governor had first to give his consent before the thief could be flogged. The then Governor was in favour of flogging, and the result was that Praedial Larceny almost ceased. The next Governor, however, was against flogging and Praedial Larceny again became prevalent. Most of the Magistrates in Jamaica would not order flogging, but in his opinion it should be made compulsory and it would have the desired effect.

Mr. Spooner said that only the severest measures could stop Praedial Larceny; he had been in Mexico and there was no Praedial Larceny there because thieves were afraid of being shot. He was not advocating that a poor and weak wretch who stole anything for the purpose of keeping soul and body together should be flogged, but those able-bodied men who subsisted by plundering other people's fields ought to be flogged, and flogged liberally.

Mr. Williams was of the opinion that flogging had not been given a fair trial. He did not wish to see an increase of flogging, but it should not be left to the idiosyncracies of a local Magistrate whether a thief should be flogged or not. Under the present Law, a thief could not be flogged for his first offence. He thought it would be better to flog him for he first offence and not send him to jail where he would be mixed up with other criminals and come out more versed in the art.

The President asked why the Resident Magistrate would not order flogging.

Mr. Cork replied that it had been discouraged by the Government because it had not been found to be successful.

Sir Jno. Pringle said he had been a medical attendant at a Prison Hospital some years ago and he knew the overtures to escape flogging that people made when sentenced: in his opinion flogging acted as a great deterrent. In the large number of cases the persons who did the actual stealing were men; the women carried home the stolen property and the children were sent to sell it.

Mr. Roxburgh asked if the Secretary would get a Statement showing the number of convictions in the different parishes where flogging had been ordered, and the number of persons again arrested who had had flogging administered to them before. The Secretary was instructed accordingly.

Prize Holdings Competition.—The Secretary submitted the Judges Report on the Small Holdings Competition in St. Mary. The Competition had been very successful indeed and arrangements had been made to have public meetings for the distribution of the Prizes the following week if the Board approved. His Excellency, he understood, had arranged to attend some of the meetings and to distribute the Certificates and the cheques for prizes. The report was adopted. (This report is published on another page.)

Half-Yearly General Meeting.—The Secretary said it was usual to hold the Meeting of the Board of Management the day before the ordinary date for that Meeting, to leave the third Thursday of the month clear for the Half-Yearly General Meeting. The Instructors Committee, however, had always held their Meeting on the morning of the General Meeting, but this did not give him an opportunity to meet the delegates and to prepare for the Meeting. He had suggested to the Instructors Committee that they might also hold their Meeting on the Wednesday previous to the General Meeting. They were agreeable. He would suggest therefore, for the Board to approve, that the Instructors Committee should meet on Wednesday, the 14th July, at 11.40 a.m., and the Board of Management at 2 o'clock p.m. the same day. This was agreed to.

Locusts.—Mr. Roxburgh asked whether they had noticed that there was a plague of locusts in Costa Rica which were eating up the vegetation including the bananas there, and he asked whether there was any chance of their coming to Jamaica.

The Director of Agriculture said that the range of the flight of the locusts was too limited to enable them to fly over the sea to Jamaica, and they could hardly be brought here in any way other. In addition, however, there was a strict Law regarding importations from Central America in vogue—even labourers boots had to be steeped in Jeyes for half an hour. They had a large quantity of Paris Green in stock at any rate to deal with such pests if they ever came here.

Free Railway Certificates for Board.—Mr. Muirhead asked leave to bring up a matter concerning the tickets issued for the Board of Management. They were return tickets, but under the condition that they could not return the same day without paying an extra charge. This did not apply to 1st Class tickets. If he wanted to return the same day by the 4.15 train, as he did want, he had to pay a fee.

Instructors Reports.—The Instructors Reports for May were submitted and directed to be circulated to the Instructors Committee as usual.

Statement of Accounts was tabled.

New Members.—The following new members were elected:—

A. Watson Taylor, Lucea.

R. A. Manton, Mandeville.

The Meeting adjourned.

PROTECTION FROM DISEASE PLANTS LAW.

LAW 3 OF 1915.—A LAW TO PREVENT THE INTRODUCTION AND SPREAD OF PLANT DISEASE.

We publish the whole of this Law which now takes the place of the similar Law entitled "The Infectious Diseases of Plants Law." The above is now the proper title of the Law in force. In last month's JOURNAL we published the Orders made under this Law for dealing with certain plant diseases: (1) Panama Disease of Bananas; (2) Bonnygate Disease of Bananas; (3) Bud Rot Disease of Coconuts.

[24 th March, 1915.]

Be it enacted by the Govrnor and Legislative Council of Jamaica as follows:—

1—This Law may be cited as the Protection from Disease (Plants) Law 1915.

2—The Diseases of Plants Law, 1911 (Law 35 of 1911) and The Protection from Disease (Plants) Law, 1912 (Law 17 of 1912) are hereby repealed; provided that such repeal shall not affect any appointment made under the provisions of the said Law 35 of 1911 or any Order issued under the provisions of the said Law 17 of 1912.

3—In this Law the following expressions have the meanings hereby assigned to them, that is to say

"Plant" includes any tree, plant, root herb or grass, or part thereof respectively.

"Plant Disease" includes any condition conducive to the deterioration or destruction of any plant or part of a plant whether such deterioration or destruction be due to disease, insects, blight, fungus or any other cause and whether communicable or not.

"Notifiable Plant Disease" means any plant disease which the Governor in privy Council by notice published in The Jamaica Gazette has declared to be a notifiahle plant disease.

"Infectious Plant Disease" means any plant disease which the Governor in Privy Council by notice published in The Jamaica Gazette has declared to be an infectious plant disease.

4—(1) It shall be lawful for the Governor from time to time by Orders to be published in The Jamaica Gazette to

(a) declare any district, area or parcel of land described in the Order to be infected with plant disease or suspected of being infected with plant disease.

(b) prohibit absolutely the importation into the Island from any country or countries named in tbe Order of plants, articles or things whatsoever to be named in the Order which in the judgment of the Governor are likely to be a means of introducing or spreading plant disease in the Island.

(c) prescribe the isolation by means of fences of any description, ditches or otherwise of any district, area or parcel of land or of any portion of such district, area, or parcel of land which shall by the same or any other Order have been declared to be a district, area or parcel of land infected or suspected of being infected with plant disease.

(d) prescribe or regulate the destruction or removal, uprooting, disposal or treatment of plants and products of a vegetable nature within a district, area or parcel of land declared by the same or any other Order to be infected or suspected of being infected with plant disease.

(e) prescribe and regulate the cleansing and disinfecting of any district, area or parcel of land declared by the same or any other Order to be infected or suspected of being infected with plant disease together with any plants thereon.

(f) prescribe the period within which it shall not be lawful to plant or replant with any plant whatsoever or with any particular plant named in the Order the whole or any portion of any district, area or parcel of land declared by the same or any other Order to be infected or suspected of being infected with plant disease.

(g) prohibit or regulate the movement or despatch of persons and animals and the removal and carriage of earth, soil, manure, vegetable products or other things in into or out of a district, area or parcel of land declared by the same or any other Order to be infected or to be suspected of being infected with plant disease.

(h) regulate the duties of persons appointed to carry out the provisions of any Orders issued under this Law.

(i) Declare any plant disease to be a notifiable plant disease.

(j) Prescribe the measures to be taken for the treatment of any notifiable plant disease or any infectious plant disease by the owner, occupier or person having the charge or management of any land whether the land shall or shall not have been declared to be infected or suspected of being infected with plant disease.

(k) Generally make provision for the purpose of preventing the introduction and spread of plant disease or of any particular plant disease named in the Order.

(2) The Governor instead of absolutely prohibiting the importation of any plant article or thing may by Order prescribe the conditions under which alone the importation of any plant, article or thing shall be permitted.

(3) The Governor may at any time revoke or vary any Order or any part of ,any Order issued under this Law.

(4) Any Order issued under this Law shall be of the same effect as if it were contained in this Law and shall be judicially noticed.

(5) Any Order issued under this Law shall come into operation on publication in The Jamaica Gazette or at such other time as may be named in such Order.

5—Any plant, article or thing coming from any country, the importation from which is for the time being absolutely prohibited, and any plant, article or thing coming from a country, the importation from which is allowed on conditions only, until and unless such conditions shall have been complied with to the satisfaction of the Principal Officer of Customs at the port of arrival shall be deemed to be prohibited goods within the meaning of the Laws relating to Customs; and any such conditions shall be deemed to be restrictions within the meaning of the said Laws.

6—So long as any Order as aforesaid is in force, any plant, article or thing coming from parts beyond the sea may be deemed to have come from a place the importation from which is prohibited as aforesaid, and may be treated accordingly, unless the Importer satisfies the Principal Officer of the Customs at the port of arrival to the contrary.

7—It shall be lawful for the Governor to appoint persons to carry out the provisions of this Law and of any Orders issued thereunder and the Governor may by Warrant direct payment out of the Public Treasury of the remuneration and expenses of all such persons and of any other expenditure that may in the discretion of the Governor be deemed to be necessary for the purposes of this Law.

8—(1) Any person appointed under the provisions of the next preceding section may with such assistance as may be necessary enter upon any land whatsoever (whether the same shall or shall not have been declared to be infected or suspected of being infected with plant disease) and there examine any plant, article or thing and dig up the ground and fell, lop, dig up and take away any suspected or infected plant, article or thing, and do all such other acts and things as may be expedient in order the more effectually to ascertain whether the said land or any plant thereon is infected with plant disease and may search for any plant disease and do any act or thing whatsoever in order to give effect to any Order issued under the provisions of this Law and may with the approval of the Director of Agriculture destroy the causes, to be determined by the Director of Agriculture, of any plant disease.

(2) For the purposes of this section any person so appointed as aforesaid shall have power to pass over any adjoining or intervening lands.

9—(1) Every owner or occupier and every person having the charge or management of land who knows or suspects the existence of any notifiable plant disease on the land of which he is owner or occupier or has the charge or management shall with all practicable speed give notice in writing to the Director of Agriculture of the fact of the land or of any plant thereon being so infected or suspected and shall in such notice give all information in his power as to the extent and nature of the disease. The said notice shall be served personally on the Director of Agriculture or shall be addressed to him by registered post.

(2) Where the occupier of or the person having the charge or management of land is charged with an offence under this Law he shall be presumed to have known of the existence of the disease, unless and until he shows to the satisfaction of the Court that he had not knowledge thereof, and could not with reasonable diligence have obtained that knowledge.

10—If the owner or occupier or person having the charge or management of any land fails to carry out any measures required to be carried out by him under any Order issued under this Law the Director of Agriculture, or any person authorised by him in writing, may enter on such land and may carry out any measures required to be carried out under the said Order and the cost of carrying out any

such measures shall be recoverable from such owner occupier or person as the case may be at the suit of the Director of Agriculture, or any person authorised by him in writing, as a civil debt before the Resident Magistrate for the Parish in which such land is situate.

11—If any person without lawful authority or excuse, proof whereof shall lie on him, does any of the following things he shall be guilty of an offence against this Law

(1). If he does anything in contravention of this Law or of any Order issued under this Law or of any rule made under this Law or fails to carry out any measures required to be carried out by him under any such Order or rule.

(2). If he fails to give any notice which by this Law he is required to give.

(3). If he refuses to any person acting in execution of this Law or of any Order issued thereunder admission to any land, or place which the said person is entitled to enter or examine or obstructs or impedes such person in so entering or examing or otherwise in any respect obstructs or impedes any person in the execution of his dury under this Law or assists in any such obstructing or impeding

and he shall on summary conviction before a Resident Magistrate be liable to a fine not exceeding Fifty Pounds and in default of payment to imprisonment with or without hard labour for any period not exceeding three months and on a further conviction within a period of twelve months for a second or subsequent offence against this Law he shall be liable in the discretion of the Court to be imprisoned for any term not exceeding six months with or without hard labour in lieu of the fine to which he is liable.

12—(1) Whenever by Order issued under this Law any parcel of land has been declared to be infected with plant disease it shall be lawful for the Governor (after such enquiry as he may deem necessary) by Proclamation to be published in The Jamaica Gazette to declare that the said land or any portion thereof has been acquired and also any land which in the opinion of the Governor is required for the purpose, of ingress, egress and regress to and from the land so declared to be infected or for the purpose of diverting any roads or paths public or private or any parts thereof adjoining or passing through or near the land so declared to be infected and thereupon the land described in such Proclamation shall vest in the Colonial Secretary of Jamaica, his successors and assigns for the use of the Government of Jamaica.

(2) The owners and occupiers of and all other parties interested in any land acquired under this section shall receive such compensation as may be fixed by agreement or by the arbitration of two arbitrators under "The Arbitration Law, 1900," so nevertheless that in no case shall the total amount of such compensation exceed the value of the land as appears in the Valuation Roll settled under Law 3 of 1911, entitled "A Law to consolidate and amend the Laws relating to the valuation of Real Property" and any law amending the same.

(3) Where only a portion of the land described in the Valuation Roll is acquired the valuation of the entire holding set out in the said Roll shall be used as the basis for assessing compensation in respect of the portion acquired.

(4) Any rent due in respect of any land acquired under this section shall be dealt with as if it had accrued from day to day and shall be paid to the person entitled to receive the same up to the day of the date of the Proclamation referred to in sub-section 1 of this section and shall thereafter cease.

(5) If any public or private rights of way exist over any land acquired under subsection (1) of this section the Governor may if in his discretion he so thinks fit by Proclamation declare the same or any of them to be determined and thereupon such public or private rights of way as are described in the Proclamation shall cease and determine.

(6) The Governor when he is satisfied that infection of plant disease no longer exists upon any land acquired under subsection (1) of this section may, if in his discretion he so thinks fit, at any time by Proclamation published in The Jamaica Gazette restore to any owner receiving compensation as aforesaid or to any person claiming by, from, through or under such owner any land so acquired upon repayment by such owner or person of the amount awarded as compensation and thereupon the land described in such Proclamation shall vest in the person named in such Proclamation for such estates and interests as are set forth in the said Proclamation.

(7) The Colonial Secretary shall with all practicable speed forward a copy of every Proclamation issued under sub-sections (1) and (6) of this section to the Deputy Keeper of the Records for record in the Island Record Office or to the Registrar of Titles for registration if the land has been brought under the operation of the Registration of Titles Laws, and the Deputy Keeper of the Records or the Registrar of Titles, as the case may be, shall, without any fee, record or register, as the case

may be, such Proclamation and in the case of a Proclamation issued under sub-section (6) of this section the Registrar of Titles shall without any fee issue a fresh Certificate of Title to the person in whom the land vests by virtue of such Proclamation and for the estate or interest acquired by such person.

(8) Every Proclamation issued under sub-sections (1) and (6) of this section shall for the purposes of land under the Registration of Titles Laws be deemed to be a transfer within the meaning of the said Laws and the Registrar of Titles may for the purposes of this section enforce delivery of any certificate of title as if the same were required for the purposes of section 124 of the Registration of Titles Law 1888 (Law 21 of 1888).

(9) The Director of Agriculture may with the approval of the Governor take possession of and hold for a period not exceeding five years any parcel of land declared by Order issued under this Law to be infected with plant disease and shall in such case pay monthly, quarterly, half-yearly or yearly as the Director of Agriculture may determine, rent to the person for the time being entitled to receive the same at a rate to be determined by the Director of Agriculture not exceeding one pound per annum per acre; Provided that any parcel of land less than one acre may in the discretion of the Director of Agriculture be dealt with for the purposes of rental as one acre.

13—The Colonial Secretary may, if in his discretion he so thinks fit, cause any land acquired under the next preceding section to be fenced and the Governor may by Warrant direct payment out of the Public Treasury of the cost of such fencing and no occupier of adjoining land shall be liable to bear any part of the expenses of erecting such fence under the Dividing Fences Law 1888 (Law 14 of 1888).

14—No prosecution for an offence under this Law shall be instituted except by or with the consent of the Director of Agriculture.

15—Any person charged with an offence against this Law may if he thinks fit tender himself to be examined on his own behalf, and thereupon he may give evidence in the same manner and with the like effect and consequences as any other witness.

16—(1) The Governor may make rules for the purpose of more effectually carrying out the provisions and objects of this Law.

(2) Rules made under this section shall have the same effect as if they were contained in this Law and shall be judicially noticed.

(3) Rules made under this section shall come into operation on publication in The Jamaica Gazette or at such other time as may be named in such rules.

17—For the purposes of this Law the decision of the Director of Agriculture as to the presence or identification of any notifiable plant disease or infectious plant disease shall be final.

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THE COCONUT INDUSTRY.

(Continued from Last Month.)

Feeding Trials with Coconut Cake and Meal.

Coconut cake, which is left after expression of the oil from copra, is of value as a cattle food, either as such or when ground in the form of meal. The cake is usually of a pale brown colour. It has a pleasant nut-like smell and taste, and is readily eaten by all classes of animals. It is used largely in Germany as a feeding stuff for livestock, but owing to its relatively high price in that country it is generally given only to milch cows.

Numerous feeding experiments with the cake or meal have been carried out in Germany, the United Kingdom, and elsewhere. In the case of milch cows the results almost without exception show that feeding with coconut cake increases the percentage of fat in the milk; its precise effect on the milk yield, however, seems to be in some doubt. Hansson, in commenting on the results of feeding trials reported from several sources, concludes that coconut cake tends to increase milk secretion, and as a result of experiments carried out on milch goats in Germany it was concluded that the cake contains substances which exercise a stimulating effect on the mammary glands. Experiments carried out at the South-Eastern Agricultural College, Wye, however,

showed that when coconut cake replaced other concentrated foods the quantity of milk produced was slightly decreased and similar results were obtained at the Midland Agricultural and Dairy College, Derby. In the latter experiment eight cows were fed on rations containing either coconut cake, undecorticated cotton-seed cake, or linseed cake. The total milk yield from the eight animals fed for a fortnight on each cake were as follows:

Linseed cake, 2,472½ lb.; Coconut cake, 2,429 lb.; Undecorticated cotton-seed cake, 2,428½ lb.

In these experiments, the live-weight increase was greatest during the period when coconut cake was used, whilst the butter produced during this period was better flavoured, of firmer texture, and appeared to possess better keeping qualities than in the other cases, whilst the results are stated to have been financially in favour of coconut cake. The fact that coconut cake tends to produce a firm butter was also proved in the feeding trials at Wye and in experiments in Germany. Coconut cake should therefore be of special value for feeding to milch cows during warm weather and for use with foods, such as crushed oats and maize, wheat bran, rice meal, all of which tend to produce a soft butter. The quantity fed to milch cows should not exceed 4½ to 5 lb. per head per day, as larger quantities tend to produce a hard butter with tallowy taste.

According to the *Report of the Agricultural Experiment Station, California*, for 1895-96, coconut meal is "a much valued concentrated food and is finding more favour every year with the dairymen of California. Whilst not rating as high in flesh formers as either linseed or decorticated cotton seed meal, it appears in many cases to be more relished by the animals."

The feeding value of coconut cake as compared with linseed cake for fattening cattle was investigated by the Edinburgh and East of Scotland College of Agriculture in 1911-12. Each cake was fed at the rate of 4 lb. per head per day, the basal ration consisting of 4 lb. Bombay cotton cake, 90 lbs. swedes, and 12 lb. oat straw. All the animals, with one exception, ate the coconut cake readily after it had been steeped in twice its weight of water, and this one exception took the allowance in the dry form quite readily. The beef produced was of high quality. From the results of the experiments it is concluded that the consuming value of coconut cake (*i.e.* the market value less the value of the manurial residues) is 62.6 per cent. of that of linseed cake.

Coconut meal forms a valuable food for pigs and can be used with advantage to counteract the effect of other foods which tend to give a soft oily bacon. It is already used very extensively in some parts of Ireland for pig-feeding, but experiments carried out by the Department of Agriculture for Ireland in 1909-10 seemed to indicate that coconut meal is not worth the extra price paid for it over and above the price of the ordinary meals generally used for this purpose.

Coconut meal has also been shown to be of value for feeding horses. Experiments conducted by the French War Department some years ago showed that coconut meal was equal or even superior to the same weight of oats, whilst satisfactory results were obtained in the United States with yearlings and heavy-work horses, when either one half or the whole of the oats in the ration were replaced by an equal weight of a mixture consisting of two parts coconut meal and one part ground nut meal.

From the results of the numerous feeding trials referred to in the preceding pages, the following conclusions may be drawn:

1.. Coconut cake forms an excellent feeding-stuff for milch cows, when fed at the rate of 4½ lb. to 5 lb. per head per day. It tends to produce a firm butter and is thus especially well suited for feeding during warm weather and to counteract the effect of feeding stuffs which tend to give a soft butter. The results so far as its effect on the milk yield is concerned appear to be inconclusive, and further trials to elucidate this point are necessary.

2. The cake may be safely fed to fattening cattle at the rate of about 4 lb. per head per day, without detriment to the animal or the quality of the meat.

3. The meal is suitable as a food for pigs, but owing to its relatively high price compared with meals usually used for pig feeding, it is doubtful whether it could be employed profitably for this purpose.

4. With regard to the feeding value of coconut meal for horses, it has been shown that it can replace an equal weight of oats in a ration without adversely affecting the animal.

Composition and Value of Coconut Cake as compared with other Feeding-Cakes.

In comparing the value of different feeding-stuffs, it is necessary to ascertain their composition, digestibility, "productive value," and tbe value of the manurial residues arising from their consumption. This subject is fully dealt with in *Leaflet No. 74 Bd. of Agric. and Fisheries*, and only the salient points are considered here.

The constituents of a feeding-stuff comprise water, crude proteins (albuminoids), fat, carbohydrates, crude fibre, and ash.

Water.—In the case of oil-cakes the amount of water present is of importance, as most of them easily undergo decomposition if they contain more than about 14 per cent. A good cake should contain about 10 per cent. of water.

Crude Proteins.—Under this heading are included all the nitrogen—containing substances, the most important of which are the true proteins, whose chief function in the animal economy is to supply material for the formation of flesh or muscle. Proteins also help to maintain the heat of the animal and to supply energy, and any excess may be employed in the production of fat. The "crude proteins" also include small quantities of amides. The latter are greatly inferior in feeding value to true proteins; but as they are present only in very small quantities in oil-cakes, they can be left out of consideration in estimating the value of the latter, and the whole of the nitrogen-containing substances may be regarded as flesh-formers for present purposes.

Fat.—The chief function of fat is to supply heat to the animal body, but when sufficient has been consumed to maintain the temperature of the body, fats may be converted into animal fat, and so increase the body-weight.

Carbohydrates.—This term includes starch, sugar, mucilage, and some other similar substances. They are the most important sources of animal heat and energy, but for the former purpose fat is nearly two and a half times as valuable, weight for weight. When fed in large quantities the carbohydrates are capable of producing animal fat.

Crude Fibre.—This includes substances of a more or less woody nature, and consists essentially of cellulose mixed with highly indigestible matter.

Ash.—This includes mineral matter, such as potash, lime, phosphoric acid, etc., which form an integral part of the plant from which the feeding-stuff is derived, as well as impurities such as sand, dirt, etc. Oil-cakes as a rule contain an ample supply of the mineral constituents which are necessary to the animal, and the ash may therefore be left out of consideration in comparing their value.

The following table shows the composition of a sample of English-made coconut cake compared with that of feeding-cakes in common use in this country.

Crude Nutrients.

	Moisture.	Crude. proteins.	Fat.	Carbohydrates (by difference.)	Crude fibre.	Ash.	Nutrient ratio.	Food units.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*		
Coconut cake, English (expressed)1 .	8.5	24.5	8.3	39.8	12.8	6.1	1 : 2.42	122
Linseed cake, English made, average (expressed)2 .	11.16	29.50	9.50	35.54	9.10	5.20	1 : 1.94	133
Linseed meal (extracted)2 .	13.15	34.75	3.03	34.67	8.75	5.65	1 : 1.20	129
Decorticated cotton-seed meal, Atlantic Ports (expressed)2	7.40	42.37	10.16	25.86	7.06	7.15	1 : 1.16	157
Undecorticated cotton-seed cake, English made (expressed)2 ..	13.75	24.62	6.56	29.28	21.19	4.60	1 : 1.67	107

1 *Analysis made by the Agricultural Analyst for the County of Wilts (1912).*
2 *Quoted from Smetham ("Journ. Roy. Lancs. Agric. Soc.," 1914).*

In discussing the feeding value of different kinds of cake it is desirable to decide on a unit of comparison which will take into account the food values of all the different constituents of a cake, and thus enable the total feeding value of one cake to be compared with that of another by a simple numerical ratio. Such a unit may be arrived at in the following way.

As the various food constituents have different functions to perform, it follows that they will not all be of equal value to the animal. In calculating the food value of a cake the crude proteins and fat may be regarded as two and half times as valuable as the carbohydrates. Consequently the food value (expressed in food units) may be calculated by adding two and a half times the sum of the percentages of crude proteins and fat to the percentage of carbohydrates. The figures thus obtained are shown in column 9 of the table above.

They are quite useful in comparing different samples of the same kind of cake.

In comparing different kinds of cake the crude value so arrived at needs to be qualified by taking into account the different digestibilities of the similar constitutents of different cakes: thus the proteins of linseed cake are different from the proteins of coconut cake and have different digestibilities and therefore different food values to the animal fed with them. Further, in the case of those cakes which contain a comparatively large amount of indigestible fibre, the whole of the digestible constituents are not available for meat or milk production. In calculating the food value on this basis the proteins are taken as equal in value to the carbohydrates, but the fat as two and a half times as valuable, whilst the amount of crude fibre is also taken into consideration. The food value (expressed in food units) in this case is found by adding two and a half times the percentage of digestible fat to the percentages of digestible crude proteins, carbohydrates, and crude fibre, the indigestibility of the fibre being allowed for by deducting from the figure thus obtained one unit for every 3 per cent. of crude fibre present. The figures thus obtained are shown in the following table, which also shows the percentage of digestible nutrients in samples of cakes and meals.

Digestible Nutrients.[1]

	Crude proteins. *per cent.*	Fat. *Per cent.*	Carbo-hydrates. *Per cent.*	Crude fibre. *Per cent.*	Food units.
Coconut cake, English (expressed) ..	19.1	8 1	33.0	8.1	76
Linseed cake, English made, average (expressed) ..	25.37	8.74	27.72	2.91	75
Linseed meal (extracted) ..	29.19	2.88	28.45	4.7	67
Decorticated cotton-seed meal, Atlantic Ports (expressed) ..	36.44	9.55	17.33	1.98	77
Undecorticated cotton-seed cake, English made (expressed)	18.96	6.1	15.23	3.8	46

1 *Calculated from the analyses shown in the preceding table, using the digestibility coefficients of Kellner ("The Scientific Feeding of Animals," 1909, pp. 38;, 388).*

It will be seen from the above table that when the digestibility of the constituents is taken into consideration, coconut cake compares favourably with cakes in common use for feeding purposes. Although containing less proteins, the high proportion of digestible carbohydtates and fibre bring up the total food units almost to the level of decorticated cotton-seed cake, and slightly above that of linseed cake.

In comparing the cost of the different cakes, allowance must be made for the manurial value of the residues arising from their consumption. If this be deducted from the current value, and the net cost so obtained be divided by the number of food units calculated on a digestibility basis as shown in the table above the net cost per food unit will be found. This figure will represent the price which the farmer pays for that part of the cake which is actually used for meat and milk production. The current value, value of the manurial residues, and the cost per food unit of coconut cake compared with linseed and cotton-seed cakes, are shown in the following table:

	Current value per ton.	Estimated value of manurial residues arising from the consumption of 1 ton of feeding-stuff.	Cost per food unit, per ton, calculated on the net value, *i.e.* the current value less the estimated value of the manurial residues.
Coconut cake ex(-pressed).	£6 10s. to £7 according to quantity and position (London, November 1914). ..	£1 14s. 7d.	1s. 3d. to 1s. 4½d.
Linseed cake (expressed).	English, guaranteed 95 per cent. linseed, £8 12s. 6d. to £8 17s. 6d. (Hull, November 1914.	£2 4s. 4d.	1s. 8½d. to 1s. 9d.
Cotton-seed cake 1. Decorticated	American, £8 10s. to £8 12s. 6d. (Liverpool, November 1914).	£3 4s. 9d.	1s. 4½d. to 1s. 4¾d
2. Undecorticated (both expressed.	English, £5 15s. to £6 5s. (Liverpool, November 1914). ..	£1 17s. 1d.	1s. 8d. to 1s. 10d.

It will be seen that when all the factors are taken into account coconut cake is cheaper than linseed or cotton-seed cakes at the rates prevailing recently, and that the difference in price per food unit per ton represents a considerable advantage to the farmer who uses coconut cake in preference to linseed and undecorticated cotton-seed cakes.

Comparison of English and German Coconut Cakes.

Since the crushing of copra was commenced in this country, cakes of higher feeding value have become available. The difference in the composition of cakes produced in England and Germany is fairly considerable, the chief feature being the comparatively low proportion of fibre in English cakes, as is shown in the following table:

	English. 1.	English. 2.	German. (According to Kellner, *loc. cit.*).
	Per cent.	*Per cent.*	*Per cent.*
Moisture ..	8.5	9.85	10.5
Crude proteins ..	24.5	23.00	21.4
Fat	8.3	8.00	8.5
Carbohydrates ..	39.8	44.23	38.7
Fibre	12.8	9.22	14.7
Ash ..	6.1	5.70	6.2

The analyses of the English cakes have been supplied by the makers of the cakes; No. 1 was made by the Agricultural Analyst of the County of Wilts in 1912; No. 2 is a factory analysis.

The Trade in Coconut Cake.

Particulars as to the extent of the trade in coconut cake and the amount at present employed for feeding purposes are difficult to obtain. Mr. E. W. Thompson, who has recently investigated the trade in cotton-seed products and their competitors in Northern Europe, on behalf of the United States Government, states that 71,000 metric tons of coconut cake were produced in Germany in 1912, of which 30,000 tons were consumed there (*Special Agents Series: No. 84, Bureau of Foreign and Domestic Commerce, U.S. Dept. of Commerce*). The exports of coconut cake from Ceylon in 1913 amounted to 236,692 cwts., valued at £72,910; the chief customers were Germany (157,895 cwts., of value £45,629) and Belgium (73,606 cwts., of value £25,677). In 1912-13, 128,074 cwts. of cake, valued

at £41,463, were exported from India, and practically the whole of this was sent to Germany. Acording to Thompson, 12,000 tons of coconut cake were produced in the United Kingdom in 1912, and 8,000 tons were exported; 9,400 tons were produced in, and 5,000 tons were exported from, the Netherlands in 1912; 10,500 tons were produced in Denmark in 1912, and practically the whole of this was exported. It has been estimated that about 64,000 tons of cake were produced in Marseilles in 1912; it is not exported to any extent from France.—*Bulletin of the Imperial Institute, London.*

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PRIZE HOLDINGS COMPETITIONS.

ST. MARY.

REPORT AND AWARDS OF JUDGE.

I beg to submit my Report on the Prize Holdings Competition for the Parish of St. Mary during the year 1914-15.

The actual judging commenced on March 16th and was completed on May 18th. The judging was not quite continuous it being necessary to make one or two breaks in order to attend to other pressing duties some of which had been previously arranged. To some extent these breaks are useful as it is a very strenuous undertaking to continue judging Holdings several weeks together, but on the other hand it makes the fixing of the values of the various holdings somewhat more difficult as there is the danger of losing track of some of the points of interest especially where the Competition is keen.

On the whole we had the advantage of good weather except toward the end when there were some good showers, and in a portion of the parish some very heavy rain which made the task of getting about the holdings a difficult one.

This is the 4th Prize Holdings Competition held in this parish, I have been associated with Mr. Cradwick in the judging for each of these Competitions, so am therefore in a good position to estimate the value of the work accomplished and to appreciate the progress made during the last 14 or 15 years.

I have acted as Judge of the Prize Holdings Competition for at least 15 years and during that time have acted as Judge in connection with three Competitions in each of the various parishes and in several parishes for four Competitions.

The experience gained in visiting so many Holdings scattered all over the Island over such a long term of years is of very great help in fixing a fair value on the work done on each holding in connection with these Competitions. It is true that each tub stands on its own bottom, so each parish stands on its own merit and each holding gets full credit for its own work done and progress made.

And while it is true that the Competition is between the holdings within each parish and not between parishes, yet a knowledge of the general conditions existing in all the parishes enables one to appreciate at its true value the work done in each parish.

I am led to put the case in this way in order that what may be stated in this Report may carry the force and emphasis the subject deserves. I should like it to be understood that the feelings of appreciation one may be forced to express in connection with the recent Competition in St. Mary are tempered and balanced by a knowledge of the exceedingly useful progress being made in some of the other parishes.

The recent Competition was beset with special and unusual difficulties, first there was the effect of tbe rather unusual occurrence in St. Mary of the severe and prolonged drought of the last three years, the evil consequences of which are still to be seen on many of the holdings; then there was the lateness of the banana crop, but what has been much more serious is the slow and unsteady demand for the fruit and coconuts during the early part of the year, and last but not least, the disorganization of so much business on account of the War.

Yet in spite of these drawbacks, the Competition was a highly successful one, and great credit is due to the Instructor, Mr. Cradwick, and his Assistants, for the manner in which the Competition was worked up, and too much cannot be said in praise of the various Competitors who in spite of the depressing influences of drought, War, and shortness of ready money, stuck to the work and succeeded in carrying through one of the keenest Competitions it has ever been my privilege to judge. There were at the start some 120 entries, but on account of the above mentioned difficulties several were not able to complete their preparations and a few others

were advised to further develop their holdings before entering the Competition, and there were one or two disqualified in not being in accordance with the Rules, but there were 92 Holdings visited and judged.

This is most satisfactory progress. In the first Competition there were less than 30 Competitors. I have not the figures for the second Competition, but in the third Competition, 1910-11, there were 47 as against the present 92. Mere numbers at times are deceptive but in this instance the increase in numbers is fully supported by the progress of the work and not only the amount of work but more especially the character of the work now seen on the Holdings.

1.—PERMANENT AND STAPLE CROPS.

The name of these crops is an indication of their great value to the holding. Most of them take a number of years of labour and care to establish, but in return for these years of hard work and thoughtful care they become a source of permanent income, even when on account of failing health or advancing age the labour ceases and the thought languisheth, the Coconuts, the Cocoa, and the Coffee which were established during the years of strength will yield their increase and continue to comfort and sustain their owners in the declining years, successfully blocking the way to a state of dependence on the parish rates or still worse a condition of misery and want. Hence the importance of giving to this section of the holding the attention it deserves. But there is the constant fight against insect pests and plant diseases. It has been one of the chief aims of the Jamaica Agricultural Society to explain and emphasise the importance of instituting and maintaining a systematic crusade against these evils.

The Prize Holdings Competition has been one of its chief agents in this work and without doubt the one attended with more definite practical and permanent results than any other single agency of the Agricultural Society. This fact has been made clear to all who have followed with intelligent interest the progress of the Competition in the various Parishes during the past few years, but if it were possible for a doubt to linger the last shadow of it has been brushed away in connection with the recent Competition in St. Mary.

It can be said without fear of contradiction that in connection with the first Competition there was no serious attempt on the part of the Competitors to practice the most elementary ideas of pruning.

In connection with the second Competition, the ordinary pruning Shears was coming into use for neatly clipping off dead and superfluous Branches and this was about the limit. During the next three or four years seeds of entirely different ideas of pruning especially in regard to Cocoa were sown and by the time of the third Competition four years ago had begun to bear fruit. Along with the Shears a sharp kni/fe was used to smooth the cuts and some neat work of this kind was being done. Tar was also being introduced to treat the cuts with, but its use was looked upon more as a work of supererogation than as a work of necessity is in these days.

But it is during the last four years that the tremendous jump forward has been made. The pruning and general treatment of Cocoa trees has now reached a scientific standard and is such as deals with the very existence of the tree. The work now being done is no longer a mere pruning to rid the tree of superfluous branches to give them shape and symmetry and to increase fruit bearing, but is a highly technical surgical operation which aims at ridding the tree from every vestige of disease. The length to which these operations are carried and the extent to which the trees are cut away to get to the root of the disease and yet live and bring to maturity its crop of pods must be seen to be really appreciated. To attempt to describe specimens a large number of which I saw during the recent Competition, would be to risk establishing a reputation I am not anxious to possess. In the treatment of Cocoa trees the pruning Shears are now discarded and an elaborate and efficient set of tools has taken their place and no small settler in possession of a Cocoa cultivation considers himself abreast of the times and upsides with his neighbour who does not possess the necessary tools, and what is much more to the point, the ability to use them. It would be dangerous and exceedingly harmful to say that all the attempts of the Competitors to treat their trees were perfect, or in some cases even correct, but it is with the keenest appreciation I have to admit, that a great deal of the work was excellently done and quite a fair proportion of it was beyond criticism.

In St. Mary at present there are a number of aspirants for Certificates as Cocoa pruners. The question of the employment of itinerant pruners is an important one and needs the serious consideration of the Instructor. When judging the holdings in St. Catherine and Portland and again in the present Competition in St.

Mary, I had occasion to call attention to defects in pruning and received the reply: "That the pruner who had been employed had said it was correct". It is highly important that each settler should know how to do it himself even if he has to employ help otherwise he is at the mercy of these itninerant pruners who to say the least are not always as painstaking as they ought to be. The Small Settler need no longer remain inactive and see his Coconut, Cocoa, and other trees and plants, the labour of years to establish, dwindle away one by one the victims of insect pests and plant diseases. With the co-operation of his Instructor, his intelligence and his lahour, he can successfully combat them;many have done so and others are following.

Looking back over the same period of years the banana cultivations have received their fair share of attention and the advance made is equally satisfactory.

A proper value is now put on manure, better methods of tillage are adopted, and definite and successful attempts made to regulate the crop so as to meet the demand at the season of the year when the best prices prevail. One was impressed with the elaborate system of trenching which is the rule now instead of the exception.

Trenching is the wrong word in this connection but by common consent is allowed to pass. 'In the early days of the Competition trenching consisted of cutting drains down the hill to assist the floods of water to carry away large quantities of the best land to lower levels and often into someone elses holding, leaving the crops on their own hill sides to perish. This has now been entirely changed and the system of trenching, in practice, on many of the holdings inspected, reflects the greatest credit on the Competitors.

II.—CATCH CROPS.

The St. Mary holdings have never been strong on the question of Catch Crops Remembering that they can grow to great advantage such crops as coconuts and especially cocoa and bananas, one is not surprised that they devote so much attention to these crops. Yet at the same time I am strongly of the opinion that every Competitor should utilise a fair proportion of his land for the production of native foodstuff. It will be argued that if he grows products for export he can buy food. But the exportable products take long, in most cases years, to mature, are at times injured by drought and completely destroyed by hurricane, whereas food-stuffs mature quicker and more quickly recover from a drought and can be re-established a few months after a hurricane. Local circumstances and conditions make exceptions to all rules but as a general rule an acre of land carefully cultivated in food-stuffs will produce more in value in the shape of food than can usually be purchased with the money obtained by the sale of exportable products from the same area. But apart from that fact there are always certain parts of the holding not adapted to the production of staple or permanent crops but which with the aid of manure and good tillage would produce crops of foodstuffs. The want of land is not the difficulty, but the want of thoughtfulness and the failure to appreciate the true value of each product in the economy of the homestead.

It is a want of ambition, a want of that proper desire to make the most and best of everything. In other words the same spirit which exists in connection with so many other things all over the Island, "I can't bother."

It is so easy to pick the few cocoa pods, if they are not even ripe they can be readily exchanged for the meal, the flour or the rice, and thus our products continue to suffer in the Markets of the world, and what might be a useful asset on the holding if taken care of, dwindles away in paMltry sums day by day. Most of the holdings in the Competition were disappointing on the question of catch crops; however, I wish to mention the following Competitors as exceptions to the above:—Francis White, Rev. C. C. Hastings, George Cummings, D. P. Watson, John Parodie, Simon Strachan, H. C. Walker.

In the second Class:—E. C. Campbell, Mrs. Goldson, Miss Dacosta, Michael Sewell, Roderick Giscombe, William Hirst.

In the Third Class:—Jeremiah Gordon, David Campbell, Henry Robbins, James Bailey, C. N. Amiel, Rachael Somers and Samuel Hird.

III.—LIVE STOCK.

There is not much of special interest with regard to the life stock in connection with the Competition to remark upon.

The general conditions of cultivations, etc., on the Small Holdings in St. Mary are such that do not offer much inducement to the keeping of stock, still I think that more ought to be done in this way.

There are always odd bits of feeding that should be utilised, and if fed to some kind of stock returns to the holding in the shape of manure, and the stock can eventually be turned into cash which is always useful. Stock and especially small stock, is a matter which deserves more serious consideration. However, it is only fair to say that the stock shown were in good condition and appear to be well cared. Miss

Dacosta had some nice goats, Mrs. Vernon had two excellent sows of the ideal type for small settlers. Mr. D. P. Watson had nice well kept mules also Mr. Edward Moore.

Special mention must be made of Mr. Edward Gray; he certainly had the finest collection of pigs I have ever seen on a Small holding—the best as to type as well as the way in which he kept them. He had 25, and there was not a weedy one amongst them. His mules also were excellent. I beg to suggest that the Competitors should bring up for discussion at their Branch Meetings the question of keeping Small stock on the holdings, especially goats pigs and rabbits.

IV.—FENCES, GATES AND GENERAL CONDITIONS.

This part of the holdings used to be a weak point in connection with the St. Mary Competitions. But as each Competition came round, the importance of the matter was impressed upon them and soon signs of improvements were seen. But it was only during the last four years that the Competitors seemed to have caught the real spirit of the thing. The progress during that time has been most satisfactory and the advance made must be seen to be appreciated. Under this section there are three items: fences, gates, and general conditions, and each of the three have received their fair share of attention. A good deal of fencing has been done, but what was more impressive was the erection of so many neat and substantial gates, a number of which were neatly tarred, adding greatly to their appearance as well as to their durability. But the item in this section of the Competition which stood out above all else was the general condition of the holdings. All except one or two who had not taken the Competition seriously, had spared no effort to improve the general condition of their holding; new gates, new roads, new fences, were the order of the day, and the neat and tidy yards and outbuildings added that completeness to the whole which made the visit to the various holdings a pleasant experience. But without in the least detracting from the credit due to the others, special mention must be made of the following: Mr. George King of Belfield, whose holding was the very acme of neatness and completeness. It is seldom I have had the pleasure of visiting a small holding where every detail in the interest of comfort and health were so perfect.

Other Competitors who also had done most excellent work were Miss Dacosta, Messrs. D. P. Watson, Edward Moore, John M. Harper, George Cummings and Samuel Sinclair.

V.—MODERN IMPROVEMENTS.

So much was written on this subject in connection with permanent crops, that it is not necessary to refer to it again more than to call attention to the fact that although the Competition has been made at least 20% more difficult by adding this section to the schedule of marks, yet the average total number of marks scored is equal to the previous Competition showing that there has been a great deal of actual progressive work done; in other words, the holdings have advanced by at least 20%.

VI.—HOUSE.

This part of the Competition shows most satisfactory progress during the last four years. House building in St. Mary where suitable materials for the purpose are so scarce is an expensive undertaking, and the fact that so many neat and substantial houses have been erected reflects the greatest credit on the competitors, and too much cannot be said in praise of the exceedingly clean and tidy manner in which they are kept, the majority of them are models of neatness and comfort.

VII.—SANITARY CONDITIONS.

This is also one of the items where very marked improvement has been made. Putting aside the immense amount of work which has been accomplished by the Prize Holdings Competition tending to increase the productive value of the holdings the good which has been done in connection with the general conditions, the houses and sanitation more than repay for the labour and money spent.

It is well worthy of remark that in this Competition in two of the weakest points formerly—house and sanitary conditions—28 competitors have scored full marks although the marking under all the headings is much more rigidly done than it used to be.

I beg to attach a schedule of the marks scored with a list of the Prizes recommended. The Competition has been exceedingly keen and it has been with the greatest difficulty that the awards have been made.

FIRST CLASS.

1st Prize	John Parodie	84 marks.
2nd Prize	J. A. Banks t	78 marks.
3rd Prize	Francis White	76 marks.
4th Prize	Peter Schleifer	72 marks.
5th Prize	H. C Walker	71 marks.

We also beg to recommend that D. P. Watson, George Cummings and Samuel Sinclair, be awarded extra prizes of 6/- each for the specially good general condition of their holdings.

SECOND CLASS.

1st Prize	Miss Dacosta	84 marks.
2nd Prize	Edward Moore	79 marks.
3rd Prize	James McGibbon	73 marks.

Michael Sewell and Mrs. Reynolds tie with 70 marks for the 4th prize; we beg to recommend that 10/- be added to the ordinary prize, and the amount equally divided between them.

Roderick Giscombe and John Ellis tie with 67 marks for the 5th prize. We beg to recommend that 5/- be added to the ordinary prize, and the amount be equally divided between them.

We also beg to recommend extra prizes of 4/- each to Mrs. Goldson and Mrs. White for their neatly kept houses.

THIRD CLASS.

In this Class there were 58 Competitors for 5 Prizes, and the fact that 31 of them scored 60% marks and only 6 out of the 59 scored less than 50%, will give some idea of the extremity difficult task it has been to award the Prizes.

1st Prize	R. D. Sutherland	76 marks.
2nd Prize	R. M. Goldson	75 marks.

Mrs. H. E. Vernon and Miss J. Robertson tie with 72 marks for 3rd prize. We beg to recommend that 6/- be added to the ordinary prize, and the amount equally divided.

H. Helps and George James tie with 70 marks for the 4th prize. We beg to recommend that 4/- be added to the ordinary prize, and the amount equally divided.

Philip McLaughlin and Joseph Thompson tie with 67 marks for the 5th prize. We geg to recommend that 1/- be added to the ordinary prize, and the amount equally divided.

In this Class there are 16 others whose efforts to improve their holdings we feel compelled to recognize, and we geg to recommend that they be awarded extra prizes of 4/- each with Certificates. This still leaves 29 Competitors in this Class who have done excellent work, scoring 50% of the maximum marks.

We trust the Committee will accede to the request for the extra prizes with the Certificates as this recognition by the Society of the efforts put forth will be much appreciated by the Competitors.

For Good Permanent Crops.—
Jeremiah Gordon, Henry Robbins.

For Good General Conditions.—
Mrs. Rachel Preston, David Campbell, Robert Jones, George King.

Good General Improvement.—
Samuel Bell, C. N. Amiel, Rachael Somers, A. A. Constable, Alfred Anderson Alexander Moncrieffe, J. A. Bernard.

Trenching and Good Cultivation.—
Samuel Bird.

Stock.—
Edward Gray.

For Well Kept House.—
Mrs. E. Tucker.

I fear that this report will be considered too long but in simple justice to the parties who put so much interest and energy into the Competition, I have felt compelled to write at length. And I take this opportunity of expressing my cordial thanks to the many whose kind help in carrying through this Competition was so necessary and so acceptable. To the Competitors who have not won a Prize, but who did praiseworthy work we wish to express our thanks and to assure them that their efforts have been appreciated by the Jamaica Agricultural Society.

E. ARNETT, Judge.
W. CRADWICK, Instrvctor.

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COCOA.

I am just in receipt of the annual report of the Trinidad Dept. of Agriculture; in it I note the following, p. 81 Report on River Cocoa Estate. Crop produced. "The average yield obtained was 9.5 bags per 1,000 trees; this should be considered satisfactory when it is borne in mind that we are now in the third year of excessive drought."

"Due consideration must also be given to the fact that the estate is still in a stage of formation and is by no means fully established."

Par. 9, Cocoa Prize Competition: "This continues to progress and very satisfactory results have been recorded." "A letter from one of the Competitors is published showing that the yield of his 2,800 trees has increased from an average of 5.8 bags to 11.8 bags per 1,000."

"A special Prize Competition has been started this year among all winners in the Competitions of former years."

* * * *

I am frequently asked, what is the yield per acre of Cocoa plantations in Trinidad? If we take the three yields given here, the one on River Estate which being the plantation of the Department of Agriculture, similar to the one at Hope, and we may assume a model of what a cocoa plantation should be although "not fully developed," and the yield of 5.5 bags per 1,000 trees of the competition mentioned on pp. 9, and also the improved yield due to the improvement brought about by the Cocoa Prize Competition of 11.8 bags per 1,000 trees, the "bag" in Trinidad being of a standard weight of lbs. 165, this would give about 1½ lbs. of cocoa per tree, or an average of about 20 pods per tree, if the Trinidad acre were calculated at about the Jamaica average of 225 trees to the acre (at 14x14 ft.) this would give about 2 bags per acre. In making some calculations some years ago with Mr. J. O. Mason, we found that over an area of between 60 and 70 acres of land at Layton Valley, he got an average of between 600 and 700 pounds of dry cocoa to the acre per annum. I also made some calculations with Mr. S. F. Noyes of Stokesfield, Port Morant some years ago, but unfortunately I cannot lay my hands on them and I dare not trust to memory, but I am pretty sure his yield was a little better. I would like to hear from other planters what their average is. Of one thing I am perfectly certain and that is that on our good cocoa lands in St. Mary, Portland, St. Thomas and St. Catherine and to a lesser extent in some of the other parishes, notably such lands as New Ground in St. Ann, parts of Hanover St. James and practically every parish, with proper attention to prevention of disease and fair ground cultivation, the yield, as set forth in the report quoted from, could easily be beaten by 500%.

The idea of "a Competition among Prize Winners" is worthy of bearing in mind when the Government is once more in Funds, for Prize winners among the Competitors in the Prize Holdings Competition, and in Cocoa Competitions too.

Note.—River estate Trinidad had a rainfall 1914-15 of 62.09.

W. CRADWICK.

CUT WORMS.

These have been very destructive this year, to corn especially, but now they are also attacking 'Irish', potatoes. We have often referred to the treatment. We sent specimens to the Entomologist lately. He writes us:

" The term cut worm is so variously used in different parts that as yet there is much confusion. Properly applied it refers to the caterpillar of certain Noctuid moths which secrete themselves either beneath the surface of the ground or amongst the roots and procumbent stems of surrounding vegetation during the day and come forth at night to carry out their work of destruction on man's crops. The wire worm—the grub of the Elaterid or Click Beetles—and the white grub—the larval stage of the Lamellicorn Beetles—are sometimes referred to under the name cut worm and there certainly is in cases extreme similarity in the form of injury. It is customary in areas where crops are subject to early attack by cut worms to use a poison bait of some sort a few days before planting a crop or before germination of a seed crop. This may however be advantageously used after planting or germination.

Formula for cut worm mash bait.—

1 lb. Paris Green

25 lbs. Bran

2 qts. Syrup or molasses.

Method of preparation.—(a) Mix the Paris Green thoroughly up with the Bran. (b) Stir the molasses or syrup into a gallon of water. (c) Moisten the Paris Green and bran mixture with the molasses and water, stirring thoroughly until it makes a stiff mash. Do not add so much water and molasses that the mash will be thin and cake when exposed.

Application.—Distribute small quantities of this about the area to be planted a few days before operations are to be commenced. If seeds have germinated or plants are out sprinkle a little near the plants or seedlings. In both cases distribute towards evening so that the bait may be in fresh condition for the outcoming caterpillars at dusk.

Small bundles of succulent vegetation—alfalfa hay answers the purpose well in U.S.A.—dipped in a mixture of Paris Green (½ lb. to 50 gallons water) and thrown here and there in fields of young plants, has in cases proved successful.

For smaller or larger amounts of material use proportionate amounts of the ingredients.

(Sgd.) ARCHIBALD H. RITCHIE,
Entomologist.

Note.—Bran is not to be got in the country, cornmeal does equally well. But unfortunately poisoned baits placed openly in fields are taken by birds, and we cannot afford to poison these. Placing the baits in bamboo pots, or even old condensed milk and salmon tins, placed on their sides, work fairly well. But in a 10 acre field of corn it is a problem to kill out the cut worms when they are in great numbers. It is to be remembered that Paris Green contains Arsenic and is a poison.—ED.

COWPEAS.

We have often described the nature of the different legumes used for manurial crops or green dressings or as a green mulch, but many readers glance at these short articles, not particularly interested at the time in any of them or only one of them, perhaps, and then circumstances occur later which demand their attention to others. We gave a pretty full description of the legumes in use here in the JOURNAL for May, 1914. The most useful all-round legume for growing through bananas or canes, is the Cowpea. It can be planted any time there are good showers, but best results are got by planting when corn would be planted in a district. There are many varieties of Cowpea. The Black Eye Pea is a variety of Cowpea, but is never considered here as such and the name Cowpea is applied to a coarser pea which is a stronger grower, of a brown or clay colour. The brown variety called "The Wonderful" was one introduced commonly before the Clay variety, but the latter is now the greatest favourite. The varieties are often found mixed yet, but generally the Clay variety has nearly superceded the Wonderful. There have been other kinds grown, but these have proved the most generally useful.

They take four to five months to blossom, (according to season and locality) and six months is allowed for them to bear their ripe seed. If planted closely they cover the ground fairly thickly, and help to keep down weeds. If the full manurial benefit is wanted they should be cut down (or disked down with a disk plough but not buried deep) and let lie as a mulch to be forked or ploughed in when they are dry. Turning in a mass of green stuff into the soil in a hot country especially in a moist locality tends to make the soil sour. However, many planters let the peas, or a proportion of them bear. The wisdom of doing this depends upon the market for foodstuffs. It may be figured that the sale of a large quantity of peas is worth more than the loss in manurial value. If planters would only try a fertilizer containing phosphoric acid and potash on the peas, and note results in vegetation (and peas if allowed to bear) and on the crop of bananas following, they would probably always manure their bananas through Cowpeas.

Not all soils grow Cowpeas well and not all planters care to be troubled with a crop to turn in, in 5 or 6 months. What some want to do is to save labour weeding, or to get something to crush out some persistent quick growing weed which causes great expense. To do this a creeping vine that will grow close, thick and dense on the soil and last 9 months or more, is wanted. This is got in the Jerusalem Pea (fully described in JOURNAL for May, 1914.) It is a small red pea, which starts to grow very slowly and weakly (like a young Congo pea) so needs a good first weeding. Then when it gets well started it crawls freely and covers the ground very thickly so that no weeds can show face under it. It may go on to the bananas if plantedtoo near them. One row between bananas 12 feet apart is sufficient. This pea does not blossom until October, and the pods and peas are so small they are hard to save. Usually some ripen earlier than others and fall and reproduce themselves. If cut down end of October or beginning of November a thick mulch is left.

On clayey and stiff soils generally, Overlook Beans are now freely used. Half of St. Mary would appear to be covered with them—they are strong growers from the first with deep and powerful

roots, last a long time, but they are not crushers to the extent of the Jerusalem peas; their growth is more open. They are such sure growers that beans could be sold very cheaply if any use could be made of them. Careful experiment would require to be made with the beans crushed in a mill to find if they would make good feeding for mules if used with a proportion of corn.

Bengal Beans perform a different service from the others. if planted, even one row up the rows of bananas, they would in 3 months be up over the plants and crush them out. Their particular service is to be planted through an old piece of bananas about to be flung up instead of leaving weeds to grow up through it. The Bengal Beans will crush out all weeds, cover the bananas with vines, then beasts turned in will feed the whole down, and the land will be left covered with a mass of manure, while the roots of the beans below will rot deep down and add a rich store of nitrogen also. We have found vines a year old with a main root as thick as a man's wrist. On land to be put under cane or banana, begin 9 months to a year ahead and plant Bengal Beans over it to get rid of weeds and add nitrogen. Feeding on a pasture may be lost during that time; but it must be figured out if the feeding per acre for stock will give more than the Bengal Beans will when ready to be put down. These beans will save some weeding after the land is taken up as weed seeds will not be there to start quickly, before the main crops gets a start; even Para Grass will in most cases be crushed out; in others the joints in the soil not killed out will at least take long to recover vitality and grow; the beasts will get 2 to 3 months rich feeding on the vines (worth 3 or 4 times more per acre than grass; the manurial value in humus and nitrogen certainly ought to be worth 40/- per acre.

We have Cowpeas, Jerusalem Peas, Overlook Beans and Bengal Beans in stock.

:o:

OIL MEALS.

It is really a grievous thing that we here should export £135,486 value in fresh Coconuts often sold cheap; send away and sell at a cheap price all our Cotton Seed; import £22,318 value of Cotton Seed Oil for cooking, and when we want a calf meal or cattle feed have to import Cotton Seed meal and Coconut meal!

Oil crushing machinery would pay here now.

In 1903 and years previous there was such machinery here, Coconuts were used and the coconut oil was used for soapmaking. The hurricane of that year caused coconuts to be scarce; castor oil seeds were wanted as a substitute, but none could be got in quantity, even at 4/- a bushel, and we had no cotton grown then.

Now we have a larger production of coconuts than ever, Castor Oil seeds have been grown in quantity enough for a local market (though not enough for a large export trade), and plenty of people have intimated that they would grow them in small quantities. Cotton Seed too is now available.

Is it possible to renew interest in a local oil and soap trade? The resulting by-products would be sold readily now:—

1. The meal from the coconuts as a feed for dairy cows.
2. The Cotton Seed meal for the same purpose.
3. And the Castor Pomace as a rich fertiliser for garden and field.

THINGS TO BE OBSERVED—Continued.

C—About Coffee.

1. Seedlings grown in stiff soil are deficient in root feeders and show little more than the tap root when taken up. These seedlings when transplanted often die. Conclusion: The best plants are raised in free fertile soil. Use a spade to lift seedlings.

2. The coffee has a long tap root, therefore it should be planted in a hole about 18 inches deep and about a foot across.

3. Several of the old coffee properties on the hills of St. Andrew are going for "an old Song." Would be buyers pronounce them impoverished. The heavy washing of years has carried off the finer soil. Conclusion: To save existing plantations where the land is steep, avoid weeding with the hoe, and resort to the Blind Trenches so strongly advocated by the Jamaica Agricultural Society.

4. Young trees from 18 months to 2 years of age often droop and wither. The trouble is with the roots. Search for a large white grub. Open the hole, apply a sprinkling of lime and expose for two weeks then supply.

5. Large bearing trees sometimes wither and die. In this case the roots have been found suffering from a fungus originally observed in Java.

Conclusion: The fungus spreading along the roots of one plant will infect the roots of others. Dying and dead trees should be dug out with the roots and burnt. The ground should be dug up, treated with quick lime and not planted within a month.

6. Some trees are at times badly attacked by ants. As a remedy apply ashes at the roots.

7. Wind will twist about trees leaving openings around the tap roots to retain stagnant water.

Conclusion: Top as low as 3 ft. or even 2ft. 6in. in windy situations. In more favoured situations a tree 5ft. high is more valuable.

8. Among trees belonging to experienced growers many are found suffering from split head.

Conclusion: Bad pruning. Top at a point where branches, leaves and stem unite so as to leave a knot. Nip off, leaving not only a bit of stem, but bits of the two branches also.

9. Trees along the margin of clustered groves invariably bear better than those inside. Conclusion: This is the effect of light and air. Thin, prune, and feather, and your crop will more than repay the extra expenditure.

10. The cutting away of the bark at any point on the stem is always followed by a shoot on the lower edge. Conclusion: To rear up a new plant from an old stock make an excision on the stem near the surface of the soil, and tar.

11. "Riders" or "Jack Limbs" are splendid bearers only for the first year, and to a fair extent for the second year. The tree after a few years will appear a skeleton if riders are left alone.

Conclusion: It is best to remove all riders as soon as they appear.

12. Parchment coffee to be white, must be produced by pulping the ripe berries within 24 hours after they are gathered.

13. Blue Mountain Coffee cured under the hot sun of the Liguanea Plain would result in a much inferior article than the genuine Blue Mountain product.

Conclusion: Not only is the cool climate of the Mountains favourable to the growth of the plant, and the development of berries, but the mild temperature has much to do with the quality of the cured product.

In lower altitudes therefore, adopt the slow process of curing and protect the beans from the burning rays of the noon-day sun.

14. Settlers as a rule pay more debts from the coffee crop than from the cocoa, the former being generally sold in a bulk.

Conclusion: Encourage the growing of coffee wherever practicable.

Stony Hill. A. P. HANSON.

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PORK.

KEEPING SUMMER-KILLED PORK.—A Southern pig can be killed and the pork cured in hot weather. It should be hung in a cool cellar away from flies till the animal heat is out, then cut in small pieces and packed in plenty of salt. Don't be afraid to use salt, as pork will not take up any more salt than it needs. Be sure to hang the carcass in a cool place (cellar or refrigerator preferred) and keep flies away from it. After pork is packed pour on cold water and pack in barrel covered with brine.

* * * * *

I have had a bit of experience in the care of cutting up and curing pigs at all seasons of the year, with no loss to speak of. This is my way of doing it. After the hog is dressed, split the backbone the whole length and let hang through the night, after brushing with solution of borax in water to prevent flies touching, and a stick to keep the split bone open; in the morning cut out leans and cut up sides to salt, and let it lie skin down in a cool room 24 hours. Then put a layer of (coarse-fine) salt on bottom of barrel, then a layer of the pork stood on edge, but do not crowd it so that the salt will work in between a little, then another layer of salt, thick enough so layers of pork will not hit together. When pork is all in in this way, put a board cover down tight to the last layer of salt and fasten so it will not float, and turn in cold water until it is two or three inches over the pork and you will have nice sweet meat. To cure the hams in hot weather, without some cool place to hang the carcase up, would be a risk unless one had a pump to force the brine in next the bone, as the bone in a ham holds the heat so long it will be apt to taint the meat, but the beacon strips cut to seven inches wide and cooled the same as salting pork will cure all right.

Cut up the pig as soon as killed and sprinkle it with salt, first cutting all the bones out; then after sunset take out and spread on the roof of the house., or on a platform high up from the ground. and leave there all night; take in just before sunrise, and pack in a box in as cool a place as can be found, and repeat two or three nights in succession, until the meat is well cooled and salted. Then hang up and smoke. This method works very well, by being careful to keep meat as cool as possible during the day.

Readers who would like to know how to cool pigs in warm weather, after killing. Cut the pork into pieces, and put water into two barrels; as fast as the water becomes warm in one barrel, put the pork into the other one, and so on until the meat is cooled. Then it is salted and put away for future use.

HOUSEHOLD HINTS.

STRING BEANS.—The "*Miss Kelly*" is very good when gathered young and tender. Peel a strip off each side; then cut beans in thin slices and throw into cold water. Drain and boil in *fast* boiling water with 1 teaspoon salt and enough baking soda to cover a 3d. Boil fast all the time. When the beans sink they are done; drain at once. Never boil vegetables with a lid on. Unlike meat, they cannot boil too fast.

Three principal rules for cooking all green vegetables are:—Put in boiling water and keep boiling; no lid on pot; drain as soon as cooked.

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CABBAGE.—Should be cut in quarters, heart removed and cooked as above. To serve, smooth down in dish and cut in squares.

If cabbage has no heart, boil as above, then sieve and add a little butter, pepper and salt and serve as spinach.

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CARROTS.—Scrape and wash carefully. If large cut in slices cross-wise; if small leave whole. Put in saucepan of boiling salted water. When tender, drain. Make a little white sauce—1 tablespoon flour, 1 tablespoon butter, ½ pint milk—pour over carrots and serve hot.

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CARROTS MASHED.—Cook as above, and rub through sieve. An equal quantity of either turnips, potatoes or yam may be added.

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Speaking of potatoes. Very few people know how to cook a Sweet Potato to perfection.

Wash a nice big one, scrub it, don't peel it—or scratch the skin. Put in a pan of *boiling* water and boil until half cooked (*when tried with a skewer they are a little hard in the centre). Drain, and put in a hot oven for a quarter hour.* Skin and serve; *or* cut in thick slices and fry in boiling fat. Sprinkle with salt, pepper and sugar; *or* mash and add 1 spoon butter, a little salt and pepper, form in balls, dip in beaten egg and bread crumbs, and fry in boiling fat.

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STOCK NOTES.

In Jamaica we have not been in a position, either through not having a large enough population, or not having a leisured class, who would take up the breeding of animals as a hobby, or not having an industrial class who also would breed birds and small animals as hobbies—to afford fancy live stock, except Race Horses.

We must as a rule look to having all our live stock of strict utility for our purpose. Of course what may be the best type of animal for dry Vere may not be the best for Upper Clarendon in the same parish; what may be found the most useful for the Pedro Plains may not be quite suitable for Northern St. Elizabeth in the same parish. But there may be developed a versatile type of horse, cow, goat, pig and fowl which will do fairly well under varying conditions, as a general utility animal; while of course there may be room for special types, breeds or combinations of breeds—for special purposes, or where special conditions suit special types, such as pure dairy types of cows for dairies in Kingston.

Breeders should set themselves to find this versatile, utility type, irrespective of breed, pedigree, colour or shape, and then breed to fix and retain the type, for if it is useful and thrifty and economical it will be profitable.

* * * * *

At the present time we are in a transition state with our animals. We have with our cattle, for instance, been keeping certain pure breeds, mixing them up pretty much at random, not aiming at any particular type; not indeed having any decided aim in view. Yet what we want, generally speaking, in cattle, is a docile animal, easy

to feed,—that is, a thrifty grower,—in breeders' language a good doer,—one that does well on its food, with tough hide (not hairy, to harbour ticks and be hard to keep clear of these pests), an animal that will grow quickly, milk well as a cow, that is, 5 to 6 quarts of a morning at least; as a steer that will make a fairly good draught beast, and as a fatterner make good beef.

Can all this be found in the one animal? We think it can. We have even found all in particular beasts; and if such specimens could be collected and bred from, a few years might see us in possession of a good island type of useful all round beast.

We are afraid a good deal of money has been lost, or rather not made, because we have persisted in keeping stock, perhaps for its name and reputation under very different circumstances. A few penkeepers perhaps have been working along such lines as we mention to a small extent.

Now, however, that there is so much interest in Agriculture—thinking interest—we hope more will breed cattle with a definite purpose and aim. For instance, nearly every breeder of cattle can remember a cow of his herd which under any conditions did well, never got off colour, bred regularly, milked well, raised fine calves. Suppose a collection could be made of such individual types, and these bred to the thriftiest bull raised out of the lot. Then a selection made from the calves again, and yet again; and if there happened to appear an extraordinarily fine type as might readily occur, breed in to fix a type.

Much as we are against inbreeding in every day stock-raising, yet no breed has ever been made without inbreeding. But mating animals scientifically with a definite aim in mind, a fixed purpose, a steady resolve, unlimited patience, and the application of close observation and skill in animal husbandry, are all entirely different from the ordinary, casual, inbreeding done through carelessness, indifference, ignorance or meanness—the grudging the expense of getting a fresh sire for the herd or flock.

At the Stock Farm at Hope, the aim is to produce a hardy type of dairy cow by a judicious blend of Indian and British breeds. Such experimenting has for long been done at the Stock Farm in Trinidad, but naturally it is the work of years. Now the Stock Farm here is also taking up the fixing of a hardy Island type of beef cattle by securing promising direct crosses of British and Indian breeds from breeders and continuing breeding on the same lines. This will be interesting and is one way of working.

A collection of useful types, especially with traces of what is usually called the old Brahmin breed, could be made throughout the Island even though the exact breeding could not always be traced, and a standard type fixed from these in a few years. Such types are often large, thrifty cows with clean skins and big udders; the steers being big, tough and thrifty but usually rather slow as draught. Still an animal that would combine size and thriftiness, milking qualities and hardiness and have a clean tough hide, would be most useful and profitable.

POULTRY NOTES.

PERMANGANATE OF POTASH.—*Correspondents write that they* have tried putting this stuff in the drinking water for fowls, and it has not cured roup! Others ask if water should have this disinfectant added all the time. We never said it would cure anything. Roup is hard to cure. We do not believe in using any medicines or chemicals *all the time*. What we recommend is that whenever the slightest sign of roup is observed among fowls—or most other troubles—it will tend to prevent infection through the drinking water if the smallest pinch of Permanganate of Potash (to be purchased from the chemist in the form of crystals and which is also of general use as an antiseptic in the house) is added to the water, just enough to make it a deep rosy pink but not dark purple. As a preventative it can be used for a week occasionally, then stopped. If any severe dose of roup breaks out and is being treated, it is better to take the precaution of adding a few drops of Eucalyptus Oil to the drinking water rather than the Permanganate of Potash as it is more effective in preventing any germs of roup that may be in the fowls, from developing.

The solution of Permanganate of Potash is also used as *part* of the cure for roup in washing out the eyes, nostrils and beak.

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A good many people consult us as to troubles among their poultry. We have given most of the information required in this JOURNAL over and over. Most of these enquirers do not appear to get the JOURNAL, and they have been losing monthly, in some cases, more than the whole cost of the Journal for a year. There was, for instance, the man who could not get an egg from his fowls which cost him 6/- per week in feed, when he ought to have been getting at that time 10/- worth of eggs each week. He was feeding his fowls like fattening pigs— not encouraging exercise, stuffing them with something like three times too much food.

Then a lady told us she fed a quart of brown rice to twenty young chickens every day but they were always dying, that is she was always hatching more, losing a lot, and raising a few only. A quart of brown rice would feed over 60 young chickens a day easily. We have continually dealt with the amount of food required to feed so many head of poultry. A quart of grain would serve 20 full grown hens for one feed.

* * * *

Whenever eggs sold for setting do not hatch chickens, those who get them think they have been swindled. We have several times dealt with the different causes which may affect eggs, so that no chickens resulr. We condense these into a few headings: (1) Cock may be off colour and not serving or not serving properly for a day or two, or longer. (2) Hen or hens which laid the eggs may have been temporarily sick—although still laying, and this affects eggs. (3) Eggs kept too long before sitting, or kept exposed to breeze which dries out the eggs, so that the embryo cannot develop properly. (4) Eggs kept for a period and not turned each day. (5) Eggs shaken in transit—germ injured. (6) Sitting hen off eggs too long or too frequently, a restless hen. (7) Setting hen sitting too closely not cooling off eggs sufficiently. (8) Nest in a box or barrel or place where the dry hot breeze blows beneath and dries out the eggs; eggs

need moisture to hatch. (9) The seasons of the year sometimes affect eggs, great heat, for instance. (10) Thunder may affect eggs.

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We take the following from a report on the great International Egg Laying Contest at Store Agricultural College, Connecticut, as published in the "Rural New Yorker," which illustrates some troubles with eggs for setting sent out by breeders there:—

"This seems to have been a very bad season for hatching. A well-known breeder writes me that he has had to duplicate nearly all his orders, on account of poor hatches. Very frequently this is not chargeable to infertile eggs, but is due to careless or rough handling by express companies. I recently sent 39 eggs to a customer in New Jersey who has a dark room with a hole in the side where the sun can shine through the egg. He tested the eggs as soon as received and found every one with the contents liquefied, the air space being at the top when the egg was held horizontally instead of at the big end where it should be. Although no shell had been cracked, yet they had been so jarred that the membrane between white and yolk was broken and the contents mixed up. This is done probably by throwing the packages from the express wagon to a man at the door who catches them—if he doesn't miss—and throws them down on the floor. An amateur would have set these eggs, and later report "every egg infertile." If 100 or more eggs are ordered they will go more safely in an ordinary commercial egg crate than in any other way. The crate is so thin and fragile that he does not dare to thrown it; he has no time to look at labels, but he instantly knows it is an egg crate, therefore, it is carried and not thrown. If the Government would furnish hampers to carry fragile mail matter, as they do in Europe, instead of putting it in mail bags along with iron castings, or wooden boxes, then parcel post would be the best way to send eggs for hatching.

Eggs sent by parcel post or rail here receive the same treatment as any other parcels, not containing fragile contents, as there is not enough trade in eggs to warrant special treatment.

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COMMENTS.

BRANCH SOCIETIES.—The last day for sending in new lists of members and for payment of affiliation fees was 30th June. A good many Branches have not yet conformed to the Rule in these respects.

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SUBSCRIPTIONS.—Those members of the Society who have not yet sent in their subscription are asked to remember to get a Postal Order for 4/- or a cheque for that amount will do, and send to us. Foreign members, 5/-.

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"SCALLIONS."—The use of manures on the red soil was well illustrated in the Lincoln district where I saw a cultivation of escallions belonging to Mrs. Robt. Holness. She has about a square chain under this crop, and she assured me that she has been planting the same piece for over 20 years. She keeps rabbits and uses all the manure from them on the piece. The escallions look well, and I need hardly add, she makes money out of same.—***Extract from the Report of Mr. Powell, Agricultural Instructor for Manchester.***

GOATS.—Under proper control the goat is a useful animal; but the goat loose to roam uncontrolled by tether or fence is the worst curse to a neighbourhood that could be imagined. Wherever goats are seen running free, whatever country or district of a country it may that country or district is poor. It may be that the goats are kept because the country will grow nothing else, but it is certain that goats at large will soon make any place poor and their owners too.

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I enclose Postal Order 5/- in renewal of subscription to your estimable JOURNAL, which I find most interesting, though my horticultural interests only find vent in a small Flower and Vegetable Garden and a score of White Leghorns. On the whole I prefer gardening in Jamaica. Garden pests are greatly in evidence—snails, wood-lice, cut worms, caterpillars and the infernal Fruit Fly, keep one very busy; plenty of rain in the winter when it is not needed and little in summer when it is. I am experimenting this summer with dry mulch, carefully cultivating after shower or watering. Very little sale for eggs now the Tourists have gone: have commenced stowing away in Water Glass according to your directions.—CORRESPONDENT, Hamilton, Bermuda.

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SOY BEANS.—When first tried here these Beans did not do very well because they were mostly grown in the lowands, but when tried in the uplands the writer had good results and so had a grower in the Port Royal Mountains. It is never wise to go on the experience of one year, or one test, or the test of only one variety. There are numerous varieties of Soy Beans. The variety introduced this year has done very well in the uplands again. A sample grown by Mr. J. W. Pattinson of Cave Valley, sent to us, has been very prolific. It has also to be taken into account that the first year a new legume like this is grown, there may not be the necessary bacteria in the soil which a nitrogen gatherng plant requires. We will watch with interest the planting of the native grown Soy Beans as undoubtedly these would be a great addition to our foodstuffs.

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PIGS.—Owing to the good seasons and the large plantings of food crops which were made from last August on, there are now large quantities of food stuffs available for feeding pigs. Bananas in some districts are in such quantities, it is stated to us, that even the hogs are tiring of eating them. Since the year 1907 there has been a shortage of pig stock owing to scarcity of feeding, and now this year there is a great demand for pigs to fatten and for breeders also. In a few districts there are plenty of pigs available, in most places they are very scarce. But owing to the absence of coastal steamers to the fact that Droghers do not sail regularly, and often take a long time between ports when there is rough weather, there is practically no means of shipping pigs around the coast. We have tried to act as a medium of distribution, but it is a very expensive matter usally to get pigs to Kingston by road or rail and then re-ship them. Then again, we have not the means of keeping pigs in town—it is against the city rules for one thing, and neighbours at the office yard object. We have had a great deal of enquiry, and we know that many are anxious to get good stock at present, but we do not see any way out of the difficulty. We give an instance of the difficulty. The parishes

of St. Ann and Portland are not far apart by sea, but imagine the expense to get pigs over by road from St.. Ann to Buff Bay direct or first by road and then by rail from Ewarton round. Pigs are not easy animals to handle. We have pretty much the same difficulty with goats.

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MUSHROOMS.—After the recent continual rains a great many different varieties of Mushroom-like plants sprung up in pastures, old cane trash heaps, and so on, and correspondents wrote asking us if there was any rule for finding out which kinds are edible. We do not know much about these Fungi, as to which varieties are edible and which are poisonous. In Great Britan the true Mushroom is the only Fungus that is eaten. There, everyone is mortally afraid of eating any other Fungi in case they should be poisoned by them. In Italy—we see it stated by a contemporary—it is believed that there is only *one* Fungus that is *not* good for food. In the continent of Europe a great many different varieties of Fungi are used for food—the famous Truffie is one variety.

A little more knowledge might open up for us a useful source of food to add variety to our dietary. As a general rule, it is stated that Mushrooms growing under trees should be avoided. We do not know any rule for judging whether any variety of Fungi is good for food by the appearance of it, but if when cooking a silver spoon is thrust among the Fungi and it turns black, it is said to be a sure sign that it is not good to eat: but we do not know about this from experience.

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GERMAN PRODUCTS.—There are two products of Germany that we are interested in which can hardly be had now. One is Potash used in Fertilizers. Almost the sole source of the commercial Potash Salts sold under the terms Kainit and Muriate of Potash which form important ingredients of every complete Fertilizer, was Germany. In every part of the world where Fertilizers are used, manufacturers and farmers have been looking around for new sources of Potash, and it is said beds of salt rich in Potash have been discovered in Texas U.S.A. Wood-ashes contain a large proportion of Potash, but then woodashes are not available in such large quantities as are required. We here, however, should save all our woodashes carefully, and use them on our growing trees, especially cocoa and coffee.

Another product which has of late years become familiar to us, being issued from the Government Laboratory in small packets to help expel worms in animals, is Thymol, a well know antiseptic. We see it stated that since the War the price has increased from 5/- per lb. to 21/6. However, this can be made from the seeds of a plant grown in India and also from a plant comparatively common in Cyprus, and in a short time supplies will be got from these sources.

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CORN.—Every year we seem to have more enemies attacking our corn, perhaps because the growing of corn is more widespread and possibly too, because it is a higher bred grain we are using. The chief of these are caterpillars in some form. First, the cut worm slices the young growing corn through when it is about 4 to 6 inches high. Then a "worm" or caterpillar attacks the heart of the corn and the leaves also; this is a very common pest but does not do a very

great deal of harm in the end. Thirdly, the Corn-ear worm attacks the young cob, feeding its way into the tip of the ear; and fourth we have another worm which we never observed before until this year, which eats into the heart of the stalk, making a tunnel right up through it. We think the cut worm is the most serious of the lot, for if the corn starts out vigorously, it seems to withstand the attacks of the others fairly well. Dusting with Paris Green and Lime in the same way as is done to cotton and tobacco will get rid of the caterpillars attacking the heart of the corn; or probably Arsenate of Lead would be better. We tried Arsenate of Lead in paste form, dissolved in water, and sprayed with a small hand spray pump, and it acted very well but certainly was not economical. Buying the Arsenate of Lead in larger quantities it would come a good deal cheaper, but probably the powder form of Arsenate of Lead mixed with Lime would be cheaper still to dust on the plants. All these worms or caterpillars are hatched from eggs laid by moths. We have sent samples of all the worms on to the Entomologist.

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CORN.—"Early plowing is the thing for corn. It gives one time to work the ground down well and kill a few crops of little weeds before the corn goes in. Cultivation is much cheaper before planting than afterward. This early and repeated stirring of the soil seems also to increase bacterial action, so that plant food is set free faster. At all events corn planted on thoroughly prepared land grows remarkably fast—and it yields heavily. From this time on through the summer exposed ground if solid loses moisture very fast. The water it now contains is just as good as any for growing plants. The sensible course is to keep it in the soil rather than depend upon chance showers to supply the corn with a weekly watering. With a corn crop well planted on a fine seedbed we may expect a fair yield in spite of subsequent freaks of the weather. A good thing about it is that preparing for drouth also prepares the land to soak up a great amount of water whenever it rains."—The Breeders' Gazette, Chicago.

The next planting of corn will begin about the 15th of August on to the same date in September (speaking generally if rains do not come to suit planting.) July is the month to begin preparations. Those who fork the land turn it over in July, those who only fork holes do so in July. Leave them open. Then when planting, draw earth in, firm it down, plant cover and firm down again.—ED.

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CUT WORMS.—We also found this year cut worms commonly—not rarely as before—attacking "Irish" potato plants, cutting the young plants off just when they are about 4 to 6 inches high. These potatoes were planted near corn, and we do not know whether they are the same as attack the corn, but specimens have been sent on to the Entomologist. This Officer will be kept a very busy man for a good long time apparently.

A root rot or "blight" also attacked "Irish" potatoes, in fact, more than one kind of rot apparently, as the Microbiologist reported on specimens sent him.

We need a change of soil for corn and potatoes, and heavy manuring also for the potatoes will become a very pressing need. With strong rich soil for the potatoes, the young plants start off rapidly and with such vigour as to get beyond the attacks of pests.

GUINEA GRASS.—After the first heavy rains we had in the beginning of June, millions of small moths appeared in some districts. These are the moths that lay the eggs that hatch into the caterpillars which eat Guinea Grass and sometimes wipe out large fields leaving nothing but the seed stalks. The second heavy rains of June washed eggs and young caterpillars off, otherwise we would have had a visitation of caterpillars. Now more butterflies are seen in hosts again. It is not practicable, we think, to use Paris Green or Arsenate of Lead on large fields of Guinea Grass, as these caterpillars do not appear to move from one field to another, but hatch from eggs laid on the leafstalks in each field. It might be practicable, whenever the first attacks of the caterpillars are seen, to cut all the Grass, cart it away and dry it as hay; but this would be expensive, and it would require to be figured out whether the dried grass or hay fed at leisure to stock, compensated for the labour of cutting and carting. It ought to be taken into account, however, that in this way millions of caterpillars would never come to the pupa stage, and so would never hatch out into moths. The whole life history of the moth and caterpillar appears to be only 39 days. The moth lays eggs which hatch into caterpillars; these pupate and develop into moths and so on.

In one of our JOURNALS, a correspondent remarked that when the little birds we know as "Pinks," and which are unfortunately shot and eaten as "titbits," come down in clouds in the month of October, they landed on a field of Guinea Grass which had just been attacked by millions of caterpillars, so it was expected that the Grass would be eaten up in a night; the next day after the Pinks settled there were practically no caterpillars. "Pinks" were only known before as seed eaters.

We want to find out all the different kinds of birds which eat these caterpillars and encourage them. This is another task for the Entomologist and he would be greatly helped if everybody gave results of their observations and experience.

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FROGS AND CORN.—Very frequently it has been stated by small growers of corn that frogs destroy the young corn by eating it. The closest observation—going out into the fields at night and in the early morning—never showed any damage to any corn we ever had that could be put down to frogs, except that where there were in large numbers, the frogs found the corn holes, especially after rains, nice cool places to burrow in, when of course, they disturbed the corn that had just started growing or was a little above the ground; and we have often stated our conclusions in reply to statements that frogs ate young corn. We have never seen it stated too, from any part of the world that frogs ate any vegetable material whatever—they consume insects. However, it is well not to be too dogmatic in agriculture. Mr. Schleifer, the Agricultural Instructor, has corn planted in Clarendon by the banks of a river, and he has stated from his own personal observation at that night he has found frogs eating the corn, and on opening some he has found the young corn shoots in their stomachs. We reported this to the Entomologist, and it is also new to him that frogs ate vegetable matter in this way. Further investigation, however, will be made. Certainly if a carniverous animal like the Mongoose can become a fruit eater and eat pine-

apples and bananas, and when dogs, ill fed at home, make raids into cornfields when the cobs are ripening, jump up, tear down the cobs and eat them, we are prepared for any changes. Dogs too, scrape out the seed corn just planted and eat the grain.

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BRANCH NOTES.

ORACABESSA (St. Mary.)—The meeting was held in the Oracabessa Schoolroom on Tuesday evening, May 11. There were present the President, Vice-Presidents, Secretary and twenty-one members. The Secretary read the Correspondence, among which was a letter from Mr. Cradwick regretting his absence on account of his having to judge the Prize-Holding Competitions. He, however, hoped to be present at the June meeting. The reports of Authorized Persons were next made which shewed one arrest and a conviction; and two arrests, but both parties were also liberated. It was suggested that the Secretary write and ask for Pamphlets shewing extended power of Authorized Persons. At this stage Mr. Watts, one of Mr. Cradwick's Assistants, who was present, was introduced and welcomed. After a few introductory remarks, Mr. Watts began his lecture on Cocoa. He spoke very forcibly on the opening of the Roots, shewing reasons for opening and also method of doing it. He next went into the method of Pruning, emphasising the necessity for having all cuts made smooth and properly tarred over. The Pods should also be cut off with a sharp knife as wringing pods off encourages disease and lessens bearing. After closing his lecture on Cocoa, Mr. Watts spoke on the Rubber Industry, shewing samples of Ruhber that was manufactured here. It was found that rubber manufactured in Jamaica is as good as any produced in the East. He explained very carefully the method of tapping the rubber, and promised to give an estimate of the cost of the growth and manufacture of Rubber at his next visit. A vote of thanks to Mr. Watts was accorded. The President suggested that Mr. Watts be asked to take up some subject for open discussion. The correspondence dealing with the Produce Protection Law was read after which the subject was much discussed. Mr. Bramwell objected to any change, on the ground that an increased License would cause a monopoly, which is very undesirable, as planters are likely to suffer in the long run. Mr. Webster was very much in favour of an altered law to prevent Cocoa being sold in pods. The President pointed out that Mr. Webster's suggestion would handicap large produce dealers, who have proper equipment for curing cocoa. It was eventually moved that the License be not raised. The President also directed the Secretary to write and enquire what is meant by proper equipment. The question was left open for the next meeting. Mr. Louis McGregor was enrolled as a member of the Society. After deciding that the hour for the next meeting be 4.30 p.m., the meeting adjourned.

J. H. WYNTER, Secretary.

UPPER METCALFE (St. Mary.)—The Annual Meeting was held on the 15th May. The Chairman, Assistant Instructors Gunter and Watts, fifteen members and the Secretary were present. The Secretary gave a brief report of the Society's work for the year just ended. Rev. Mr. Hastings was unanimously re-elected President and Mr. W. T. Edwards, Secretary and Treasurer. Mr. S. Bell was elected V.P. The Authorized persons were asked to report on their work during the last quarter. One arrest on a case of suspicion, dismissed with doubt., and one conviction. The question of selling half green cocoa pods was discussed when Mr. Gunter in a very clear manner, showed that he had experimented on the half green, the ripe and the over ripe pods, and had found that the result was greatly in favour of the ripe pods. All present promised to discourage the selling of half green pods. Mr. Watts had a very intersting talk on How to make the Meetings interesting. He showed how at one of the meetings of a certain Branch a member was able to give his experience respecting the use of Jey's fluid to keep away Bats from dwelling houses. At next meeting the President will move : "That Meetings of this Branch Society be held at Brainerd and Lucky Hill alternately." "That this Branch secure for the use of its members a set of pruning tools." The President will at next meeting lecture on the cultivation of yams. W. T. EDWARDS, Secretary.

PORT ROYAL MOUNTAINS (St. Andrew.)—The regular meeting was held at the Mt. Fletcher Schoolroom on Saturday, 22nd May. The Rev. E. Mair presided. There was a fair attendance of the members. The President stated that the Books for the Penny Bank in connection with the Society had arrived and the Bank would be started immediately. A discussion arose *re* a ram goat for the Society, and it was decided that the General Secretary be written to to secure one as early as pos-

sible, the Society having already paid for it, still desires that it be obtained. Only one new member was admitted. The election of officers for the current year, the Rev. E. Mair was elected President, and Mr. J. A. Whitworth, 1st V.P. Messrs. J. A. Whitworth and N. A. Grey were appointed Treasurer and Secretary respectively. The Funds of the Society were considered in a healthy state, standing at £5 16s. 4d. The Secretary was instructed to send in the affiliation fee early to the General Secretary. There was no report from the "Authorised Persons" and so the Society believes that Praedial Larceny is on the decrease. "Authorised Person" Simon Williams complains that for duties performed, he cannot get his pay though he has made several applications for it. A lively discussion took place. Several members expressing the baneful effects when "Authorized Persons" get so much trouble and annoyance in having their claims met. It was decided that the Secretary writes to Mr Barclay on the matter asking that attention be given the matter from the proper source. A letter of resignation was read from the late Secretary, Mr. H. J. Crooks. The resignation was accepted and instruction given that he be so informed. The Secretary was further informed to remind the Agricultural Instructor of the time of meeting so that he may be in a position to attend. The President gave a short address to the members on the value of cultivation and the importance of combination, for which he was heartily thanked. The Secretary tried to impress the benefits of a definite plan in coming to the meetings, and the help it gives to each member. The meeting then adjourned till June 27th.

N. A. GREY, Secretary.

MAIDSTONE (Manchester.)—The annual meeting was held at Nazareth on the 25th May. There were present: The Rev. W. C. Morrison, presiding; Thomas Powell, Esq., Instructor; Rev. S. J. Swaby (visitor) who subsequently became a member. 13 regular members and the Secretary. The President extended a right hearty welcome to the Rev. S. J. Swaby, the new Minister at Nazareth. In replying Mr. Swaby expressed his pleasure in being present, and promised to do his best in the interests of the agricultural work of the district. The Secretary read correspondence from Mr. Barclay dealing with new list of members for the financial year; also letter from the Inspector of the Police Force, submitting the names of Easton Peart and Simon Copeland as "Authorised Persons." The applicants were considered fit persons and were duly nominated by the Branch. Their names are to be sent up to the Secretary of the Agricultural Society. The next business was the Secretary's and Treasurer's report. After some discussion the reports were adopted. It was agreed that the Managing Committee meet before the 30th June and consider steps to be taken with members who had not paid their local fee for the past year. A paper on "Perseverence" was read by Mr. N. A. Riley. It was exceedingly "pithy" and gave evidence of much thought on the part of the writer. A hearty vote of thanks was accorded Mr. Riley. The Instructor urged on all present the necessity of heavy mulching of all permanent crops. He showed the advantages of heavy mulching and how and when it should be applied. The meeting enjoyed a Duet "The Happy Farmer", sung by the Misses Campbell. The ladies were accorded a hearty vote of thanks. The election of officers now took place. Mr. Powell was asked to take the Chair during the election. It resulted as follows: President, Rev. W. C. Morrison re-elected 1st V.P.; Rev. S. J. Swaby, 2nd V.P.; Mr. C. Josephs, Secretary and Treasurer, Mr. J. A. Maxwell, re-elected. Mr. Mor rison promised to report to the Superintendent of Roads the frightful condition of the roads in this part of the parish. All save one of the Authorized Persons were able to report that Praedial Larceny was on the decrease in their sphere of operation.

J. A. MAXWELL, Secretary.

TROJA (St. Catherine.)—The regular monthly meeting was held on Thursday, the 27th May, 1915, at 6 p.m. There were present: The Agricultural Instructor and 12 members. Mr. Mossman, the Instructor referred to the correct method of planting yam heads, and asked Mr. Cawley for a bit of land for the purpose of demonstrations. This was promised and the demonstration was fixed to take place on the 25th June at 5 p.m. Mr. Mossman also promised to go to the prison Farm to procure potato slips of the best bearing varieties, and pumpkin seeds for distribution. He also promised to give lectures on diseases of cocoa and coconuts. Mr. Cawley spoke on the larceny of cocoa in pods. He found that cocoa in pods was used as a means of barter; that goods of a trifling nature were exchanged by shopkeepers; that every Chinaman buys this article, either legally or illegally, and that unless the Government came to the rescue, the planters would suffer incalculable loss. Continuing, Mr. Cawley said that children who were allowed to sell or exchange cocoa pods for lunch, became demoralized, and the next generation would grow up a band of theives; that this desperate state of things was largely encouraged

by parents and guardians; that the cocoa industry was more important than the rum industry, and that as the rum industry was hedged in by stringent laws, it was of paramount importance, that the cocoa industry should also be protected. Mr. Mossman following, said that in 9 out of every 10 instances, cocoa pods were sold at shop places in a green state. He had a strong objection to the pod license, and would like to see it abolished altogether, or only sold in lots of 100, and not less. By doing this he was of opinion that the stealing of cocoa would be checked to a great extent. The President endorsed the opinions of the former speakers, and added among other things, that he regretted the system very much although he was a buyer himself, because it was an infamous and accursed one. Some buyers would buy the green pods, cut one end of each, lean them up, pour water in, and set up fermentation to soften the inside. Some even bury the green pods for the same purpose. A Committee was formed to meet on the first of June to draft some recommendations to the Government, through the parent society *re* the Produce Protection Law. The Meeting was brought to a close by the singing of the National Anthem. E. T. THOMPSON, (for Secretary.)

DALLAS AND CONSTITUTION HILL (St. Andrew.)—The annual Meeting of the Society was held on the 28th May. There were twenty members present, the Instructor and the Secretary. The usual work of the Society was attended to, and the election of Officers to serve for the current year. The following resolution was moved and agreed to: "That seeing the importance of the Sub-Officers' Guide a copy be brought and kept by the Secretary for the use of members of this Society." Addresses were given by the Instructor on Mulching and Manuring, and by the President on Dry Weather Cultivation as sequel to one given at the Hope Farm School by Mr. E. J. Smith. It was then moved and agreed to, that: In view of the necessity for more extensive demonstration in Dry Weather Cultivation in this District, be it resolved that the Instructors' Committee be asked to permit the Instructor to spend a whole week in this District in order to foster the work. There were three new members enrolled. J. T. BROWN, Secretary.

KELLITTS-CHAPELTON (Clarendon.)—A meeting was held on the 28th ultimo. There were present, the President, Vice-Presidents, Instructor, seven members and the Secretary. The Instructor read his report from the JOURNAL *re* Barbecue Competition. The Cocoa Competition will come off in July. The Instructor lectured on Corn, refrring to the lectures he attended at Hope, urging co-operation among members to plant corn so that a depot could be established in the district, and thus ensuring better prices for this product. He urged the members to support native industries. He also spoke on Guinea Corn. The President, Mr. Bailey, Mr. C. Scott and Rev. R. J. McPherson also spoke. The ram from Rock River will be here in June, under the Instructor's care, and it was agreed that members have his use for 1/- and outsiders 2/-. Correspondence were read and discussed *re* delegate to the Half Yearly Meeting, the Secretary was asked to attend, and promised to if he found it possible. It was agreed by the members that the next meeting be held at Kellitts on the 17th June at 5.30 p.m. Mr. Sweeney was proposed a member and paid in his sub. Four members paid in their subscriptions, and the meeting terminated. J. J. SMELLIE, Secretary.

BLACK HILL (Portland)—The regular monthly meeting was held in the schoolroom on the 29th May. There were present, six members and the Secretary. Letters from Mr. Barclay were read and discussed. The question dealing with Local Cocoa buyers was brought up. All the members expressed their desire of having a local buyer. The Authorized Persons, Messrs. Jacob Mitchell and Henry Mitchell, gave in reports to the effect that they have been executing their duties faithfully and well but are hampered by not having handcuffs and badges. The matter of sending a deleate to the Half Yearly Meeting was left to be discussed at the next meeting. The meeting then adjourned for the second Saturday in June.
H. A. L. CAMBBELL, Secretary.

WHITEHOUSE (Westmoreland.)—The monthly meeting was held on the 1st. June. The President occupied the Chair; eleven members were present. The Instructor and several lady visitors. After the preliminaries, the following business was transacted, viz.: (1) A delegate was elected to attend the Half-Yearly General Meeting on the 15th July. (2) The adoption of resolutions for a (a) Special Competition and (b) the eradication of pests which tend to invite and harbour sickness. (3) Discussion on a water supply which resulted in the decision to call a public meeting for the purpose of deciding the means and ways to accomplish same. (4) *Instruction to the Secretary to write the Parochial Board about the clearing of*

Heath Spring. (5) Adopting a resolution endorsing the Jamaica Contingent movement and subscribing to the Fund. (6) Decision to read and discuss for information some of the Laws in the Sub-Officers' Guide. M. HEWITT, Secretary.

BAXTER'S MT.-GEORGES HOPE BRANCH (St. Mary.)—The monthly meeting was held in the Baxter's Mt. Schoolroom on Tuesday, 1st. June. Mr. E. Gunter Assistant Agricultural Instructor was present. Arising from the minutes was a discussion on Co-operation. Mr. Gunter said he was in favour of co-operation; he advocates such moves, but co-operation must be progressive and successful Proper organization is essential. Discussion on the Scheme followed and it was decided to refer it to the next meeting. The meeting then discussed the necessity of having more authorized men and their qualification. It was shown that when the Society started, it was young in experience and appointed many men who were found to be inactive and one or two illiterate. It was suggested that illiterate men ought not to be Authorized Persons. If Authorized Persons are illiterate, but yet active and show a good account of themselves, their names might be retained, but in future only men who can read and write will be appointed. New Authorized Persons were nominated and the names of Messrs. W. C. Marsen and Henry Elliott voted out. Authorised man, David Carey, gave in his report. He made one successful arrest during the month. It was moved and unanimously carried that a delegate from this Branch be sent up to the Half Yearly General Meeting, and Mr. T. A. Dean Secretary, was appointed. The Instructor then addressed the meeting on the Cocoa Industry. Bad Pruning and Gormandizers are among glaring defects found in the cultivations here. Tearing off and wringing of pods are evils practised. He demonstrated and showed how to prune. Pods must not be torn nor wrung off. He lectured lengthily on Pod Rot, explaining the cause and told what precautions must be followed to prevent this. Scattering of broken pods in the cultivations, rotting here and there in heaps must be discontinued. The members were deeply interested in the lecture. They took the hints and many gave orders for Pruning Knives. The Branch decided to get up a consignment of walking sticks for the soldiers in the Front, and to purchase a Ram for the Society, if there are sufficient funds. Other matters being disposed of the meeting stood adjourned. T. A. DEAN, Secretary.

FAR ENOUGH (Upper Clarendon).—A meeting was held at the Good Hope School Room on Wednesday, 2nd June, 1915, when they were present: I. A. Morrison, Esq., Vice-President, eleven members and the Secretary. The affiliation fee of 5/- has been paid to the Parent Society, and that a revised list of members had not been forwarded because all the members had not yet paid up their subscriptions. Read letters from Mr. Barclay dealing with Produce Protection Law, publishing of Branch Notes, and taking out of monthly JOURNALS from Post Office, also a circular relative to the sending up a delegate from this Branch Society to attend the Half Yearly Meeting of the Parent Society in Kingston. It was proposed and agreed to that Mr. Benjamin Thomas of Rodon Hall, a member of this Society, be deputed as the delegate for that purpose. It was also proposed and agreed to, that the sum of £1 1s. 0d. that was to be given as a donation from this Branch to the War Fund, but which was not dne, must now be remitted to Mr. Barclay as a donation to the Jamaia War Contingent Fund, subject to Mr. Barclay's approval. The Secretary was instructed to write all those members, who have never attended any of our meetings, with the request that they will now do so, and also pay up their subscriptions for 1915-16. It was also proposed and agreed to that a representation be made to the Parent Society, in order to assist the small cultivators to obtain a better price for their sugar, that the Government might erect at Far Enough centrifugal machinery for the purpose of refining raw sugar, and to request the Parent Society to use its influence with the Government for the support and adoption of the scheme if at all practicable. It was also proposed and agreed to, that the Society purchase out of its funds a grindstone for the use of the members. The Secretary was instructed to write Mr. Barclay, to enquire of him if there are any markets home or foreign, where Cassava Farine can be sold at a profit.

J. C. ROBERTSON, Secretary.

BELVEDERE (Portland.)—The meeting was held on June 3rd. Those present were: The Vice-President, Treasurer, the Authorized Person, the Secretary, and five other members. A lengthy discussion arose out of the correspondence. Secretary was instructed to write Mr. Arscott *re* pigs, and Mr. Barclay *re* grind stones, and copies of monthly forms for Authorised Persons. The Produce Prosection Law was discussed and all agreed that the License remains as it stands and let cocoa be bought and sold, "with restrictions" As the factory is far, people

would suffer and when the license is increased, the big man alone buying he is likely to offer any price he deems fit. Moved by Mr. Lowe, seconded by Mr. Whorms, the officers retain their positions as last year. Carried. Vice-President thanked members. Authorized Persons said district appeared quiet at present. Secretary read a paper *re* importance of members attending meetings. He will read report of year's work at next meeting. Motions for next meeting from: W. Neysmith *re* Bridges, and J. Lowe *re* Wood Pecker. Discussion for next meeting: Corn or Banana, which is more valuable. R. J. LAWSON RICKETTS, Secretary.

CAMBRIDGE (St. James.)—The usual monthly meeting took place on the 5th June. There were present: Messrs. E. E. Myers (President), the Secretary, the Treasurer, Mr. J. Briscoe (Instructor) and 9 other members. A circular from Mr. Barclay *re* the July Half-Yearly Meeting of the Society was read and considered. Mr. Briscoe was asked to represent the Branch at the meeting and he consented. He will be asked to speak strongly and forcibly on the great necessity and desire for the extention of time in regard to refunds of loans to Loan Banks. Mr. Briscoe gave an interesting sketch of the course he recently attended at Hope. He asked members to send to him all suspicious insects found on their crops, and he will send them to the Entomologist for observation, etc. The Authorized Persons gave in reports. Mr. Gray was instrumental in the arrest of a praedial thief who has gone to prison, and Mr. Reid had arrested one for alleged larceny of banana, who is awaiting trial. The Secretary was asked to apply to the General Secretary for copies of the list of articles the theft of which constitute Praedial Larceny, for guidanc of our Authorized Persons chiefly. The matter of a J.P. in the district was referred to and the conclusion arrived at that the Custos has treated the Branch with discourtesy. He had promised to give the matter due consideration; according to the newspapers a gentleman has been appointed and he has not notified the Branch of the appointment. This gentleman and others quite eligible were not suggested by the Branch in the petition to him, as from the nature of their connections with the district they may be removed at any moment. Those suggested have been passed over. The Jamaica Contingent Fund was referred to, and all present promised to assist in the efforts on foot to collect from Cambridge at least as much to send one man to the front. Mr. Briscoe said he still has cocoa plants for distribution, and orders were booked. National Anthem. R. M. ARNOLD, Secretary.

BROWN'S HALL.—The regular monthly meeting was held in the Schoolroom on the 9th inst. There were present: The Rev. G. L. Young (President) 2 Vice-Presidents; H. L. Mossman, Instructor, six members, ten visitors and the Secretary. Correspondence was read from the Secretary of the Parent Society *re* the sending of a delegate to the next Half-Yearly General Meeting. The Rev. G. L. Young was elected to attend. The Annual Report of the work of the Society was read and adopted. The Authorized Persons were present and gave an account of their work. Cornelius Graham reported that he has neither received his badge nor handcuffs since his appointment in September, 1913. The President suggested that the member bring their Journals with them to the meetings in future as some time could be devote to reading paragraphs that would be beneficial to all. The Instructor in addressing the meeting gave some account of his attendance at the recent Agricultural Conference. He spoke a good deal on Yam Cultivation, and at the next meeting he has arranged to give a demonstration on the planting of yams in different spots. Seven members paid in their subscriptions after which the meeting was adjourned.

J. M. COUSINS, Secretary.

ENFIELD (St. Mary.)—The regular monthly meeting was held in the Schoolroom on the 9th June, 1915. The meeting began at 3.45 p.m. There were present: Rev. W. S. Taylor, President; two Vice-Presidents, the Treasurer, the Secretary and 10 members of the Branch. Several persons wrote to the Branch, complaining of the increase of vagrancy and the indulgence in the use of indecent and lewd language; and asking whether the Branch could do nothing to suppress the evil. The Branch is of opinion that more strict Police Supervision is needed; and that if the Government would return to the old system of paying the District Constables at £1 per month, the men would be induced to move more actively in their district. The correspondence from the Secretary of the Parent Society *re* Produce Protection Law, came in for a very lively discussion. The subject being a very important one, and calls for the greatest care, it was found necessary to postpone it, until a copy of the Law could be procured, and placed on the table for guidance of members n making their recommendations. The Secretary was instructed to write the Secretary of the Parent Society asking him to loan us a copy of the Law. The roll was called and the meeting was brought to a close. J. Z. JOHNSON, Secretary